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THE WOOD-CARVER'S ART IN ANCIENT MEXICO

BY

MARSHALL H. SAVILLE

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
1925

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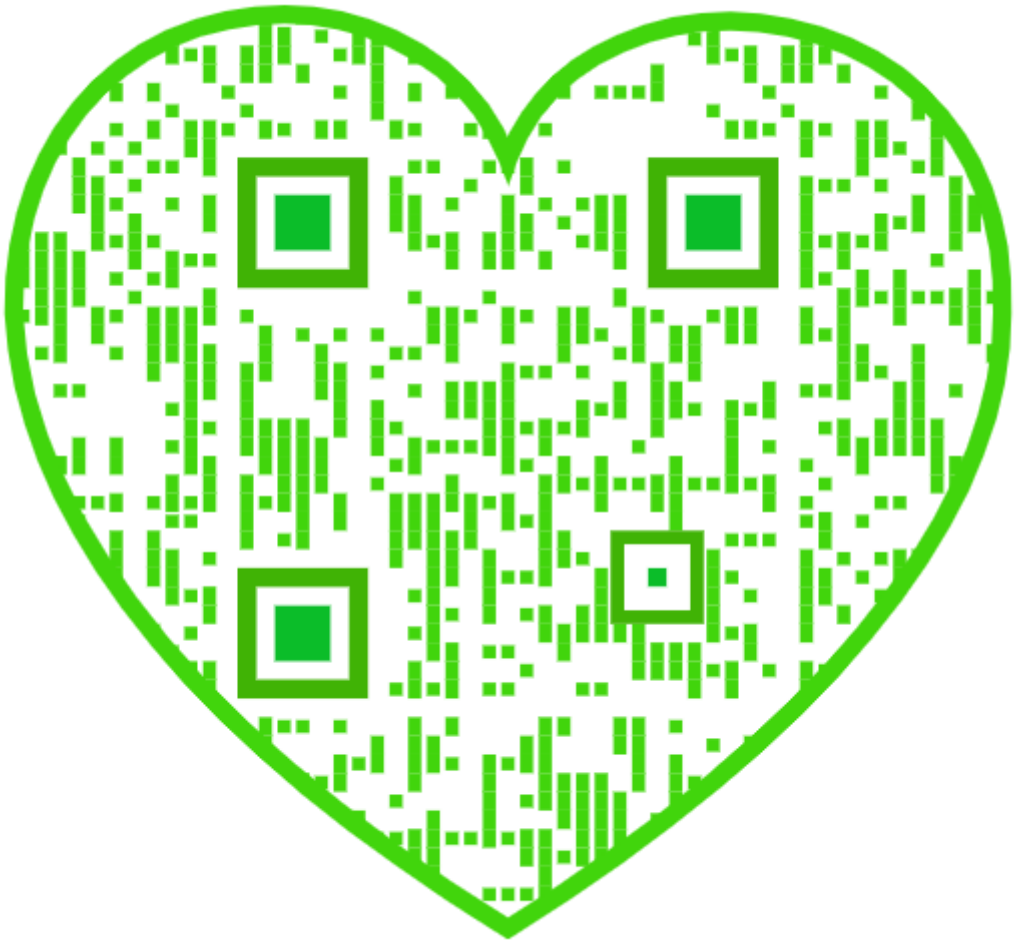

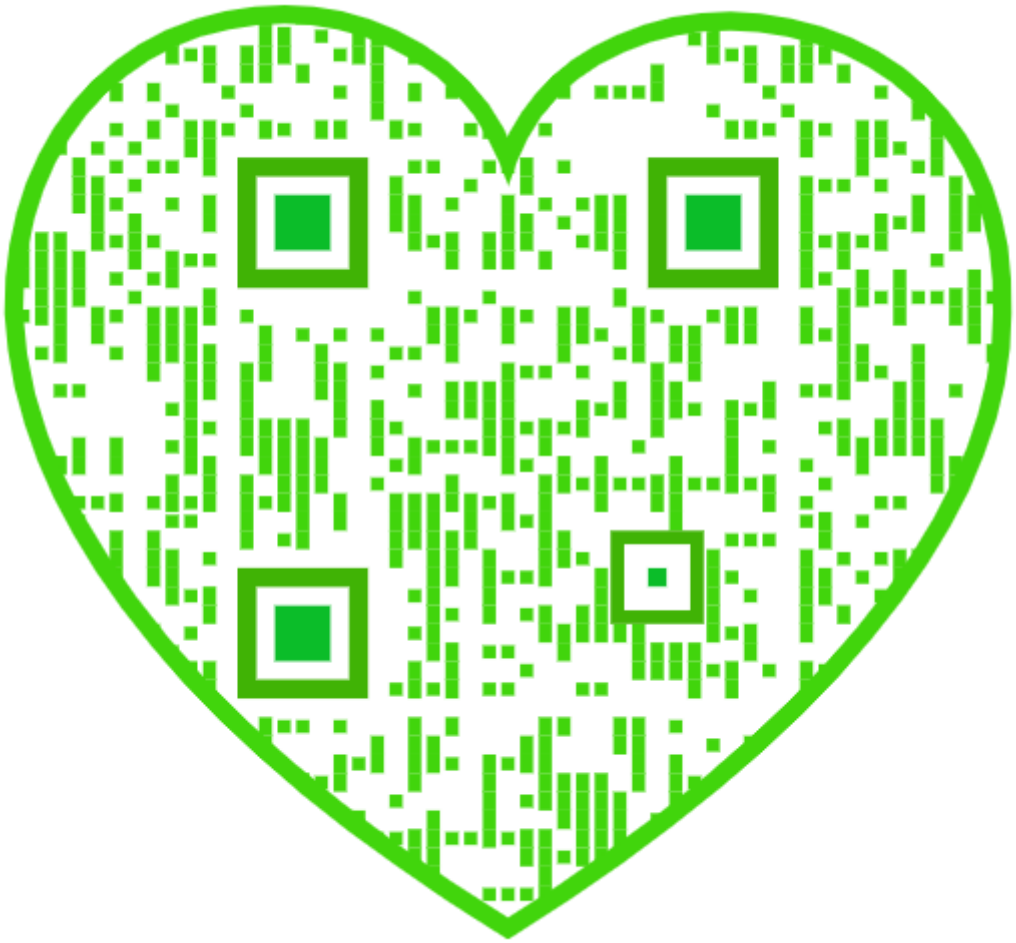

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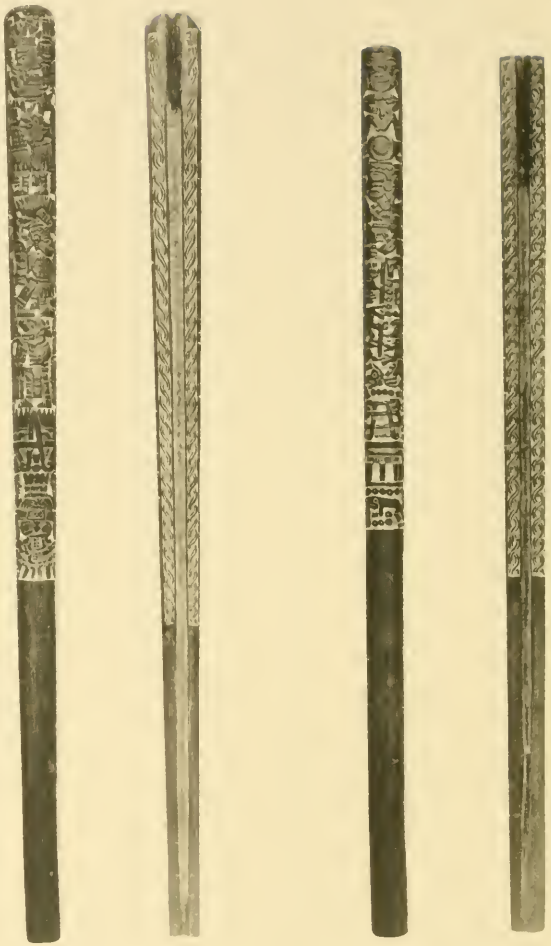

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ATLATLS FRONT AND REAR VIEWS

MUSEUM OF THE AMERICAN INDIAN HEYE FOUNDATION, NEW YORK

THE WOOD-CARVER'S ART IN ANCIENT MEXICO

BY

MARSHALL H. SAVILLE

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
1925

PANDICK PRESS, NEW YORK CITY

TO

JAMES B. FORD

Generous and sympathetic patron of geographical, natural history, and anthropological research, counselor and friend of institutions and individuals in their pursuit of knowledge, this volume is dedicated by the Board of Trustees of the

MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION

in commemoration of his eightieth anniversary.

New York, June 9, 1925

PREFACE

THIS study of the Wood-carver's Art in Ancient Mexico is a sequence of the writer's monograph on Turquois Mosaic Art in Ancient Mexico, in the publication of which the description and illustration of the collection of Mexican mosaics in the Museum of the American Indian, Heye Foundation, were the chief object. In like manner the main incentive for the preparation of the present monograph is the description and illustration of two splendid examples of Mexican wood-carving which came to the Museum with the mosaic collection, the gift of Mr. James B. Ford.

As it was our privilege to include in the former book all the known examples of mosaics from Mexico, it has been equally our good fortune to have examined practically all of the known specimens of wood-carving in the museums of Europe and Mexico, in order to complete our investigations of the subject.

We are under obligations to the custodians of collections containing Mexican material in museums of England, France, Spain, Italy, Switzerland, Austria, Germany, Holland, Belgium, Sweden, and Mexico, as well as of the United States, and we extend our thanks to them collectively. Owing to their courteous attentions the writer is enabled to include in this work all the important examples of the art under consideration which have been brought to his notice. The pictographic record is thus fairly complete. We trust that this contribution to the knowledge of a long-neglected and little-known phase of the material culture of the early Mexicans will lead to a better appreciation of the high attainments of that people in this branch of the fine arts.

M. H. S.

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THE WOOD-CARVER'S ART IN ANCIENT MEXICO

By MARSHALL H. SAVILLE

INTRODUCTION

AMONG the fine arts of ancient Mexico, wood-working has received the least attention both by early chroniclers and by modern writers. Lack of definite information regarding wood-carving in the old chronicles is noted by Bancroft, who writes that "the authorities devote but few words to the workers in wood, who, however, after the conquest seem to have become quite skilful under Spanish instruction."[1] Joyce, in the latest manual on *Mexican Archæology*,[2] and Spinden in his *Ancient Civilizations of Mexico and Central America*,[3] make no mention at all of the art of wood-carving. So, too, Wissler, in his *American Indian*,[4] in the map showing the distribution of sculpture, carving, and modeling, restricts the art of wood-carving to the Northwest coast of North America. Nevertheless, the few pre-conquest examples of this art that are extant reveal considerable skill and proficiency in the use of wood. If we may judge by the meager historical notices that have been brought together in this study, and consider the few examples herein illustrated, we are led to differ from the conclusion of Bancroft that "wood-carving was apparently not carried to a high degree of perfection." It will be shown that wood, carved and painted or gilded, was extensively employed in the interior of houses and temples, in fashioning idols, for various articles of furniture, and for ceremonial and other objects. Highly intricate designs were graved with a delicacy not excelled by the work of any other people of antiquity, and certainly equal to the best carved work of ancient Egypt. The greater part of this art is irretrievably lost by reason of

the perishable character of the material, hence the few existing specimens must necessarily give only an approximate idea of the range of uses to which wood-carving was applied.

The master workmen in the carpenter's trade exercised their craft in the embellishment of the many churches erected in Mexico during the sixteenth and seventeenth centuries. A comparison of this later work of the wood-carvers with that of pre-Cortesian times exhibits clearly a skill in this line of manual endeavor that fully equaled that of the best workers in stone, long recognized as a fine art among the ancient peoples of Mexico. It is due only to the sparsity of material evidence that students hitherto have not taken into consideration this additional proof of the high attainments of the Mexicans in all branches of craftsmanship, such as ceramics, lapidarian work, mosaic work in stone and feathers, and weaving.

The Mexicans of the present time are skilful in all manner of handicraft, and are especially good cabinet-makers. That this skill has been inherited from their pre-Spanish ancestors is evident, for much of the old furniture found in Mexico, as well as the wealth of carved pulpits, altar pieces and frames, chests and other things of wood in old churches, are the product of the craftsmanship of native artisans. Biart stresses this point: "A few years after the conquest of their country, the Aztec sculptors, finding no more employment for their art, busied themselves in carving, from bones or from wood, ornaments for the altars of churches which everywhere took the place of the native temples. Succeeding admirably, their works of this kind were soon preferred by the missionaries to those which came from Europe."[6]

It has not been the purpose in this work to undertake a comparative study of the ethnological significance of the two principal groups of wooden objects of ancient Mexico extant, namely, the spear-thrower, and the horizontal drum. Our chief interest has been to assemble and present all available material pertaining to that branch of aboriginal fine arts to which the book is devoted, including descriptions and illus-

trations of those objects that have not hitherto been the subject of study. Comparative studies, such as those made by Seler and Beyer, to mention only two of many who have made progress in analyzing the paintings and sculptures portraying mythological subjects, will, it is hoped, be advanced by the drawings of the beautifully embellished *atlatls* and *teponaztlis* which are now placed before investigators for the first time.

SOURCES OF WOOD

The mountains and slopes surrounding the Valley of Mexico, as well as certain portions of the valley itself, were formerly covered with dense forests of large trees of excellent qualities of hard and soft wood, well adapted to the needs of the ancient Mexicans, who built numerous towns in the region at an early date. Chief among the cities was Texcoco, the seat of another branch of the Nahuan or Mexican family to which the Aztec belonged, who established themselves in the Mexican valley at a later time, their capital, Tenochtitlan, having been founded as late as 1325.[6]

Important information is derived from the valuable *Relación del Tezcoco*, written by Juan Bautista Pomar in 1582. This account, one of the most important fountains of information concerning early Mexico, has been used only too little by students. Pomar speaks of the spruce tree, growing in abundance on the hills in the vicinity of Texcoco, as being one of the three principal woods employed. He writes: "The Indians call this tree *huiyametl;* it is a large tree, growing very straight, and some of them are quite thick, having a girth near the base of four or five fathoms; from these trees the Indians make their great canoes for navigating the lake. From these trees also they secure large boards for doors, tables, and boxes. But the principal use is for large beams, and for wood-work or wainscoting, because the timber is very straight and free from knots." Pomar states that pine was not much used because of its softness, only on rare occasions being employed for doors and windows, its chief use being for firewood. Varieties of oak, poplar, and *madroños* or strawberry-wood, are mentioned, "not much used except in sculpture, being easy to work for that purpose."[7]

In olden times these forests were protected by stringent laws of the Mexican kings. Prescott has translated from the *Historia Chichimeca* of Ixtlilxochitl[8] (chap. 46) a portion of

the chapter relating to the laws of Nezahualcoyotl, king of Texcoco, which treats of the protection of the forests of this part of the Valley of Mexico. On one occasion, while wandering incognito in the vicinity of one of the protected royal forests, he saw a boy gathering kindling wood in a field, and inquired of him why he did not go into the neighboring forest, where he would find plenty. To this the boy replied, "It was the king's wood and he would punish him with death if he trespassed there." The royal forests were very extensive in Texcoco, and were guarded by laws as severe as those of the Norman tyrants in England.

A certain superstition existed in ancient Mexico in relation to the guardian spirits of the forests—it was necessary for the forester to give offerings and make prayers before undertaking the work of felling the trees. In an important Brief Relation of the Gods and Ceremonies of the Heathen, by Pedro Ponce, is an interesting account of these superstitions. Under the heading, "Those who cut the wood called Quauhtlatoque," it is stated that "it is customary in each town to have designated persons, who, when they wish to have logs or other wood cut, go to the woods or forest, and before they begin to cut the wood, make an oration to Quetzalcoatl, asking permission to do so, and pleading that through no lack of respect do they wish to take out wood from his forest. And they ask him to aid them in taking out that wood, and promise to put it in a place where it would be venerated by men. The log or logs being cut, and being tied so as to be felled, they place in the end (of the cut) a little *pisiete* [*picietl*, tobacco], and in the middle and at the back, and then they give it (the tree) a few blows in the center with a beam, and invoke Quetzalcoatl that he should aid them, so that nothing bad would happen in the road, and that no one should be injured. And they do the same when they transport large stones, and they smoke it with *copal* in honor of Quetzalcoatl."

Another writer, Hernándo Ruíz de Alarcón, in his Treatise on the Superstitions of the Natives of New Spain, devotes a

chapter to this subject under the title, "Of the Exorcism, Spell or Invocation for the Cutting of Wood," which contains the Nahuan text of a prayer or invocation to Quetzalcoatl, offered by an old native sorcerer or witch doctor in the town of Comala, who at the time of writing was the keeper of the idols in that village. Alarcón states that this native priest was called *Tlamacaqui*.

Cervantes de Salazar, in his *Crónica de la Nueva España*, tells us that the Mexicans adored as gods certain trees, such as the cypress, cedar, and oak, before which they made sacrifices, and they had them planted in an orderly fashion around their fountains. The Spaniards soon placed crosses in the midst of these trees in order to sanctify them to the worship of God.

The description given by Prescott in regard to the subject of the destruction of the forests in this region is timely. He writes: "In the time of the Aztecs, the table-land was thickly covered with larch, oak, cypress, and other forest trees, the extraordinary dimensions of some of which, remaining to the present day, show that the curse of barrenness in later times is chargeable more on man than on nature. Indeed, the early Spaniards made as indiscriminate war on the forest as did our Puritan ancestors, though with much less reason." Again commenting on the destruction of the forests in the Valley of Mexico and the consequent change in the aspect of the landscape, Prescott writes: "The stately forests have been laid low, and the soil, unsheltered from the fierce radiance of a tropical sun, is in many places abandoned to sterility; when the waters [of the lakes] have retired, leaving a broad and ghastly margin white with the incrustation of salts, and even now that desolation broods over the landscape, so indestructible are the lines of beauty which Nature has traced on its features, that no traveller, however cold, can gaze on them with any other emotions than those of astonishment and rapture."[9]

While the forests in the valley have practically disappeared, there are still a few extensive tracts of virgin growth on some of the slopes and hilltops surrounding the valley, notably in the beautiful region to the north of the City of Mexico, back of the ruined convent known as El Desierto de los Leones. It is indeed unfortunate that, during the time of the administration of Carranza, great areas of this tract were cut, leaving ghastly bare mountain slopes in what should have been protected forever as a national forest reserve.

The abundance of timber of various kinds was utilized to the fullest extent by the ancient Mexicans in the construction of houses and for supplying the millions of stakes and planks required for filling the swamps surrounding the chain of lakes, all of which, with the exception of Lake Texcoco, itself much diminished in size, have now practically disappeared, as recounted by Prescott. As Tenochtitlan was a lacustrine city, intersected by numerous canals and with parallel paved roads, and crossed by many bridges, through which canals innumerable canoes plied their way from neighboring settlements on the lake shores, one may judge of the enormous quantity of wood used along the sides of the canals, in the construction of the bridges, and for the fabrication of canoes. In the year 1900, when excavations were conducted on the site of old Tenochtitlan in the City of Mexico, in connection with the laying of pipes for an improved system of drainage, in the present Avenida de Guatemala, back of the cathedral, many thousands of stakes were discovered about fifteen feet below the present level of the city, driven there when new land was needed for building the Aztec capital. Parts of earthenware water pipes in which crystalline water was still flowing, were found at this time.[10]

Wood obtained from the neighboring forests was offered for sale daily in the great market of Tlaltelolco. Bernal Díaz describes the precinct where the merchants sold "lumber, boards, cradles, beams, blocks, and benches, each article by itself, and the vendors of *ocote*, firewood, and other things of a

similar nature."[11] The conqueror, Cortés, writes of wood being sold in the market, "both in the rough and manufactured in various ways."

The woods commonly used were cedar, cypress, pine, spruce, oak, laurel, and other hard varieties peculiar to tropical or semi-tropical regions. Sahagun writes: "There are some wild trees which they call *tlacuiloltiquavitl*, that is to say, it has painted wood, because they are of a bright reddish color with black veins that appear as if they were painted over the red: it is a very valuable tree, because from it they make *teponaztlis*, timbrels and vihuelas: these instruments give a loud sound when they are made of this wood, and because they seem as if painted and are of good appearance they are very valuable."[12]

The *ahuehuete*, a cypress-like tree, is described by Hernández in the following rather vague terms: "The only reason why the Mexicans call this tree the *ahuehuete* is because it is accustomed to grow near the rivers where water flows, and because they make their drums of it, which in their tongue is called *huehuetl* and *teponaztli*, although others say that this is not the reason it is so called, but only because it grows near the waters, and that the wind striking (the tree or leaves) makes a noticeable sound like that made by the drums used by the Indians; they do not make the drums from this tree, but of the wood of the *tlacuilolquahuitl* and of the *capolquahuitl*."[13]

The use of rubber was known to the Mexicans. The tree is described and its uses noted by Sahagun and others. Sahagun describes the rubber tree in these words: "There are other trees which they call *olquavitl;* they are large and high, and contain much liquid. From these trees there is secreted that black resin called *ulli*; this resin called *ulli* is very *mechosa* [literally, having abundant hair-locks]; it is medicinal for the eyes, for abscesses or tumors and putrefaction, and also is drunk with cacao; it is very beneficial for the stomach, for the intestines, and internal putrefactions, and the bowels

when they are closed. This resin becomes very flexible and they make from it balls for games, and they bound more than foot-balls (*pelotas de viento*)."[14]

Hernández, writing of this wood, calls it *hologuahuitl*, or *chilli* tree.[15] He states that there are two species of this tree, one of which is found in Mecatlan and in Yhualapa, and the other in the province of Michoacan. The word for wood and for log in the Mexican language is *quauitl*.

In the recently distributed atlas containing the plates of the Florentine manuscript of Sahagun to accompany the Mexican text, as yet unpublished, pls. 97 to 123 and 135 to 138 consist of 419 drawings picturing the trees, shrubs, herbs, and fruits of the Valley of Mexico.[16] These are partly described in the Spanish transcript, made by Sahagun himself, and published by both Kingsborough and Bustamante, but without the illustrations.

A wealth of information is contained in the great work of Hernández concerning the plants and animals of New Spain, together with their native names. The writings of both Sahagun and Hernández attest to the varied and rich flora of the region.

THE AZTEC CARPENTERS AND SCULPTORS

In his Fifth Decade, written during the conquest, Peter Martyr obtained much information concerning the habits and customs of the inhabitants of the Valley of Mexico from Juan de Rivera, a trusted messenger of Cortés, who went to Spain in 1522 in charge of the Aztec loot. In this account we glean the following concerning the native lumbermen and carpenters, and the manner of house-building. He writes: "The heavy beams and pieces of timber used in constructing their houses are treated as follows: The slopes of the mountains are covered with lemon-trees. It is known that when the Romans renounced frugality to give themselves up to debauchery and pleasure, they used citron wood for their tables and beds, because this wood is always in fermentation, and free from worms and rot; moreover its planks are of various colors. Pines were also found mixed with lemon-trees in the forests of these regions. By means of their copper hatchets and well-sharpened axes, the natives cut down the trees, hewing them smoothly and cleaning away the chips to facilitate their transport. There is no lack of plants from which they make string, cords, and cables, as though from hemp. Boring a hole through one side of the beam, they pass a cable to which slaves are harnessed, as though they were oxen under the yoke. Instead of wheels, they place rounded tree-trunks on the road, whether going up or down hill. The carpenters oversee the work, but the slaves do the heaviest part of it. All materials and whatever is required in daily life is carried in the same way, for they have neither oxen nor asses nor any animal as beasts of burden. Incredible stories are told of these pieces of wood. I would not venture to repeat them, had not eye-witnesses, called before us in full council, testified that they had verified them. Such witnesses are numerous. One of these beams found at Tezcuco is one hundred and twenty feet long, and as thick round as a

a b c d

CARPENTERS AT WORK

AFTER VARIOUS CODICES

fat ox. It sustains almost the entire building. We are assured that this has been seen, and nobody doubts it. Does not this example furnish a high idea of their industry?"[17]

In Sahagun's monumental work are found rather copious descriptions of the processes employed by the Mexican goldsmiths, stone-workers, and feather-mosaic artists, but it neglects to record the work of the carpenters and woodcarvers. Sahagun describes what artisans of this class should do, but his allusions apply to Spanish times, as he speaks of the necessity of expertness in sawing; but of course the Indians had no implements of this nature, iron and steel being unknown until introduced by the Spaniards. In the Florentine manuscript of Sahagun (pl. 7, to accompany Book I of the Mexican text) is found a picture of a native felling a tree with a copper adze (our pl. II, *a*). A seated man is shown carving a human figure in wood, employing a wooden mallet and a long copper chisel, the resultant chips lying on the ground. In the same manuscript (pls. 36 to 39 to illustrate Book X) are depicted carpenters at work, but using Spanish tools and methods. As an eye-witness of the Aztec arts and crafts, Sahagun gives little information concerning the trade itself.

In the Codex Mendoza is an illustration of a carpenter teaching the craft to his son (see pl. II, *b*). The father is represented in the act of hewing a small tree-trunk with an adze-like implement, presumably of copper. The text accompanying the drawing reads: "The carpenter, lapidary, painter, goldsmith, and garnisher of feathers, signify that those artificers teach their sons their occupation from their childhood, that when they are men they might follow their trade, and spend their time in things of virtue, giving them counsel that of idleness cometh evil vices, and so evil tongues, tale-bearing, drunkenness, and thievery, and many other evil vices."[18]

In the Mappe Tlotzin we find a series of artisans analogous to that painted in the Codex Mendoza: it is related to the reign of Nezahualcoyotl, king of Texcoco. There is an

Aztec gloss which reads as follows: "Nezahualcoyotl brought together the idols, gave asylum to the four nations, and assembled in quarters of the city the artists and artisans."[19] The last of the series of figures represents a wood-carver occupied in his profession (see pl. II, *c*), with a copper adze having a cord reënforcement that holds the blade firmly in the handle.

On page 21 of the Codex Osuna, or *Pintura del Gobernador, Alcaldes y Regidores de Mexico*, painted in 1565, various trades are represented by the heads of individuals, who are to serve the Viceroy Luis de Velasco. Carpenters are shown by the representation of the tool of their trade, a copper adze mounted in a wooden handle placed above two heads (see pl. II, *d*).[20]

Mendieta, another early chronicler, writes that "the carpenters and wood-carvers worked wood with implements of copper, but they were not given to the working of curious things like the stone-cutters."[21] Herrera, on the other hand, says that "they were very good carpenters, making boxes, writing desks, tables, and other things of much beauty."[22] He refers, of course, to the early Colonial period of Mexico. We believe that stone adzes, chisels, and axes also were employed by the Mexicans, as many small, sharp-edged implements of very hard stone, suitable for cutting and engraving hard wood, have been found throughout the Mexican culture areas.

The Mexican words for carpenter, as found in Molina, are *quauhxinqui* and *tlaxinqui*. The place where the trade was carried on was called *quauhximaloyan*, *tlaximaloyan*, and *tlaxincan*. The craft of carpentry was *quauhxincayotl* and *tlaxincayotl*.[23]

We can go further in identifying the copper adze as the principal tool used by the Aztecan carpenters and carvers, for in the codices are many glyphs of place-names in which copper adzes and axes are depicted, these implements being easily recognized by the different manner in which they were hafted.

In the Mexican language the term for a copper axe is *tlaximaltepuztli* (*tlaximalli*, chips or shavings; *tepuztli*, copper). A small axe is *tlaximaltepuztontli*; a chisel of copper, *tepuztlacuicuiuani*, *cuicui-nitla* signifying to carve or sculpture wood. An axe for cutting kindling-wood is *tepuzquauhxexeloloni*.

On the reverse of page 10 of the Codex Mendoza are the representations of numerous towns conquered by the Aztecan king Axaycatl, who reigned in Tenochtitlan during the years 1470-81. These towns are each shown by a burning house to which is attached its glyphic name. One of these places is Tlaximaloyan (fig. 1), whose glyph is a mounted copper adze (*tlaximaltepuztli*) above the hewn trunk of a felled tree from which chips have been cut. The name *tlaximaloyan*, we have shown, signifies a place where carpentry was conducted.

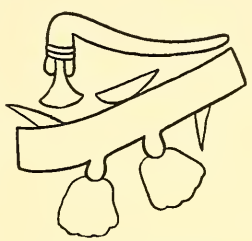


FIG. 1.—Glyph of a copper adze and a hewn tree trunk

In fig. 2 are assembled five illustrations of hafted copper axes and adzes copied from codices. They are painted yellow, the symbolic color of copper. The first specimen (*a*), from the Manuscrit du Cacique, formerly known as the Codex Becker, is not the implement of a carpenter, but of a warrior, for it is represented as held erect in the left hand of one who carries a shield and two darts in the right hand. The axe is painted yellow or copper color in the codex, and the poll protrudes through the back of the handle.

The second axe (*b*) is the glyph of the name of the town of Tepoztitlan, after the Tribute Roll of Montezuma[24] and contained also in the Codex Mendoza. It is similar to the preceding axe, except that the blade has a flaring edge, somewhat like that of the adzes, the blade being identical with *c*, taken from the Florentine manuscript of Sahagun. The axe *c*,

however, is set in a highly recurved handle, the poll not projecting through the wood, and, furthermore, it is ornamented with a round knob at the base of the handle, from which hang three tassels.

The last two specimens are carpenter's adzes, *d* being from the Tribute Roll of Montezuma and the Codex Mendoza. It is the glyph for the name of the town Tepuztlan, the meaning of which is "place of copper." Adze *e* is from page 44

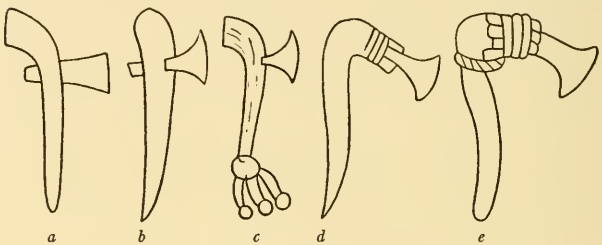


FIG. 2.—Axes and adzes with copper blades

of the Codex Magliabecchiano, where it is placed in front of the "four hundred gods of drunkenness." This implement has a cord around the handle where it curves, apparently to aid in tightening the wedges serving to hold the blade in place.

Many examples of copper axes and adzes of the types from the codices have been found in various parts of Mexico and Central America, but none are known to exist in their original handles. Iron and steel axes and adzes used today are mounted in the same kinds of handles, and the axes have the same recurved upper feature.

TRIBUTE OF WOOD PAID TO AZTEC RULERS

The great population of ancient Mexico, especially of the Valley of Mexico, required enormous quantities of wood of various kinds in the form of logs, beams, and planks, for many purposes, exclusive of fuel. In the Tribute Roll of Montezuma is found painted the tribute paid to Montezuma in firewood, beams, and planks, by a number of towns in the vicinity of Tenochtitlan, the capital. This Tribute Roll was copied in the Codex Mendoza, which contains also, in Spanish, an explanatory text, from which we translate literally: "Item, twelve hundred loads of firewood which they paid as tribute every eighty days. More, twelve hundred great beams of wood which they paid as tribute every eighty days. More, two thousand four hundred large planks which they paid as tribute every eighty days." In the first publication of the Codex Mendoza by Purchas in 1625, this text was translated, but a mistake was made in regard to the frequency of the payments in wood, as it states that the several quantities were delivered every four days. The Mexican month consisted of twenty days, hence the deliveries were made not every four days, but every four months, or eighty days. The quantities are represented by the feather attached to each drawing of the tribute, a feather being the sign for four hundred in the Mexican system of numeration. A representation of the pictures of these tributes of wood is shown in fig. 3.

The interpretation of the names of the places indicated by glyphs as paying the tribute in wood is given by Peñafiel in his *Monumentos del Arte Mexicano Antiguo*,[25] in the section relating to the Tribute Roll of Montezuma. In pl. x of the Peñafiel edition (page 32 of the original manuscript of the Codex Mendoza in the Bodleian Library at Oxford) is found this list of tributes. Peñafiel's explanation follows:

"1. Cuahuacan [spelled *Quahuacan* in the Codex Mendoza, and wrongly *Quahneocan* by Purchas], a town of Cuauhtla,

'place of woods'; 2. Tecpan, 'royal palace'; 2 bis, Chapolmoloyan, 'place where the grasshoppers grow'; 3. Tlalatlauhco, 'place where the muddy water collects'; 4. Acaxochic, the same as Acaxochitlan; 5. Ameyalco, 'in the sources of

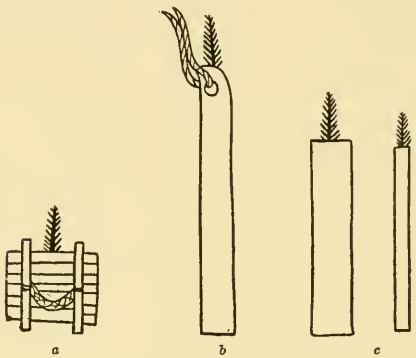


FIG. 3.—Tribute of wood paid to Montezuma by towns in the Valley of Mexico

water'; 6. Ocotepec, 'place of ocotes', resinous pines; 7. Ycohuitzquilocan, 'place of three thistles'; 7 bis, Coatepec, 'place of coatl'; 8. Cuauhpanoayam, 'place where one passes over a wooden bridge'; 9. Tlatlachco [*Tallacha* in the Mendoza Codex], 'ball-game on an earthen floor'; 10. Chichiccuauhtla,' forest of Chichic cuahuitl'; 11. Huitzilapan, 'river of hummingbirds'."

More than half of these town names still exist in the State of Mexico, showing that the tribute came from places in the vicinity of Tenochtitlan.

The taxes levied by Montezuma on the towns in the Valley of Mexico were onerous and were secretly resented by the people. The coming of Cortés and his followers, in 1518, seemed to the simple and unsuspecting natives to offer an

opportunity to throw off the yoke, which they accepted, only to fall under a severer form of tyranny. When nearing the City of Mexico, as Bernal Díaz states, "all these towns secretly, so that the Mexican ambassadors should not hear them, made great complaints about Montezuma and his tax gatherers, who robbed them of all they possessed, and made the men work as though they were slaves, and made them carry pine timber and stone and firewood and maize either in canoes or overland."[26]

USES OF WOOD

In this portion of our study we shall consider briefly the information derived from the early chronicles and the native codices concerning the many different uses of wood in the daily and ceremonial life of the old Mexicans. It will be apparent that almost all the knowledge of this subject must be gleaned from the sources referred to, as all tangible visible evidence has long ago disappeared. Canoes, bridges, houses, furniture, weapons, and most of the ceremonial objects of wood no longer exist; hence only from the painted codices are we able to obtain even a faint picture of the character of this feature of the civilization of ancient Mexico. We have already drawn attention to the unlimited source of wood and the enormous use made of it. We shall now take up in order some of its uses in the daily life of the people.

CANOES

Strangely enough, no ancient canoes are preserved in the National Museum of Mexico, although in the United States canoes have been discovered from time to time in river-beds and along the borders of bogs and lakes. In the Museum of the American Indian, Heye Foundation, and in other museums, are a number of canoes from our Eastern states, found in such places. Our only knowledge of the shapes of old Mexican canoes is derived from the codices. In the Lienzo of Tlaxcala, a painting by native Indians depicting the conquest of Mexico by Cortés, canoes are represented on a number of pages.[27]

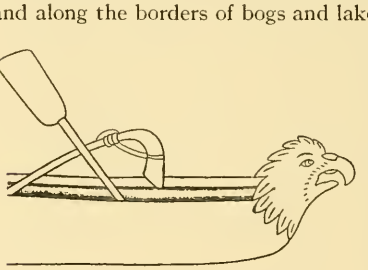


Fig. 4.—Prow of a gala canoe used on the lakes in the Valley of Mexico

CEDAR BEAMS AND POLES TEMPLE OF QUETZALCOATL

RUINS OF TEOTIHUACAN

CEDAR BEAMS NEAR BASE OF TEMPLE OF QUETZALCOATL

RUINS OF TEOTIHUACAN

On page 41 (our fig. 4) is found the only gala canoe of which we have knowledge. It is a portion of the forepart of the vessel, having a carved prow in the shape of the head of an eagle, thus suggesting that canoes were elaborately made for the use of the rulers and other nobles. The paddle is represented, but the handle end is hidden in the boat. This type of canoe must have been capable of carrying a number of persons and rowers for state occasions. The other pictures, also from the Lienzo of Tlaxcala, show canoes of simple shape (fig. 5), which held from one person to five or six persons, being simple skiffs of the type still used in diminishing numbers on lakes of central Mexico.

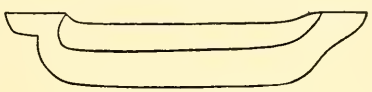


FIG. 5.—Canoe of ordinary type

A canoe was called *acalli*, from *atl*, water, and *calli*, house. The prow of a boat was *acalyacatl*, from *acalli*, canoe, and *yacatl*, the nose or front of something. An oar or paddle was *auictli*, or *tlaneloloni*. At the present time the native name of canoe has fallen into disuse, the Spanish form of the word prevailing.

The laws regarding the theft of canoes were strict. A person caught committing this offense was required to pay the value of the canoe in mantles, and if not able to do so, he was enslaved.[23]

It will not be without interest to quote from two of the chroniclers concerning canoe traffic in Tenochtitlan, the Aztec capital city. An account of its canals and the parallel streets is found in the description by the Anonymous Conqueror, who writes: "The city had and has many fair and broad streets, though among them there are two or three preëminent. Of the remainder, half of each one is of hard earth like a pavement, and the other half is by water, so that they leave in their barks and canoes, which are of wood hollowed out, although some of them are large enough to hold

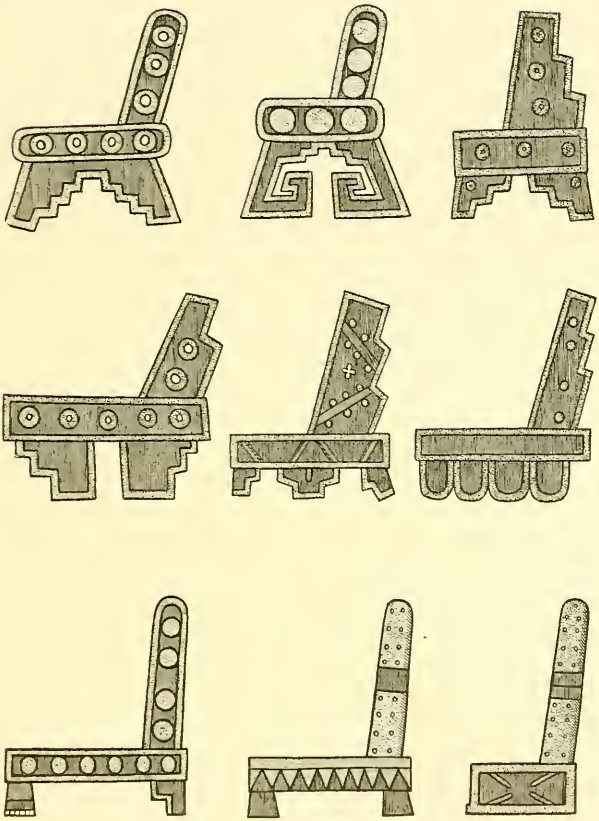
commodiously five persons. The inhabitants go for a stroll, some in canoes and others along the land, and keep up conversation. Besides, there are other principal streets entirely of water, and all the travel is by barks and canoes, as I have said, and without these they could neither leave their houses nor return to them, and all the other towns being on the lake in the fresh water are established in the same way."[29]

The other account is found in the Second Letter of Cortés, who states: "Canoes peddle the water through all the streets, and the way they take it from the conduits is this: the canoes stop under the bridges where the conduits cross, where men are stationed on the top who are paid to fill them. At the different entrances to the city, and wherever the canoes are unloaded, which is where the greatest quantity of provisions enters the city, there are guards in huts to collect a *certum quid* of everything that comes in."[30]

BRIDGES

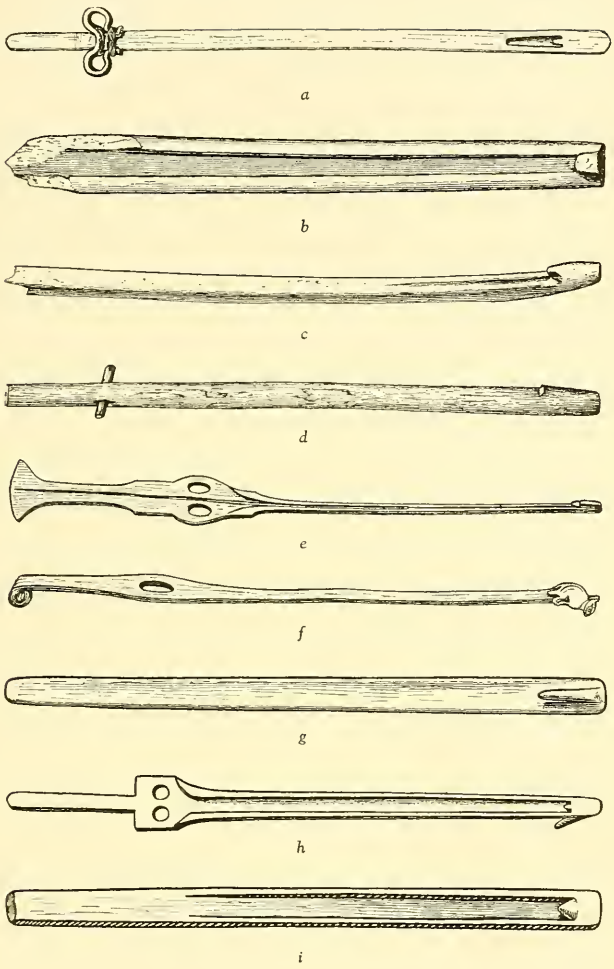
The canals of Tenochtitlan were crossed by numerous bridges, of which we find many references in the accounts of the occupancy of the city. In his Second Letter to the King of Spain, in which he describes his entry into Tenochtitlan via the causeway leading from Ixtalapa, Cortés writes that "there is a wooden bridge, ten paces broad, in the very outskirts of the city, across an opening in the causeway, where the water may flow in and out as it rises and falls. This bridge is also for defense, for they remove and replace the long, broad, wooden beams of which the bridge is made, whenever they wish; and there are many of these bridges in the city, as Your Majesty will see in the account which I shall make of its affairs."[31]

In describing Tenochtitlan, Cortés tells us about its streets being "one half land, the other half water on which they go about in canoes. All the streets have openings at regular intervals to let the water flow from one to the other, and at



CHAIRS

AFTER VARIOUS CODICES



VARIOUS ATLATLS FROM THE UNITED STATES AND MEXICO

all of these openings, some of which are very broad, there are bridges, very large, strong, and well-constructed, so that, over many of them, ten horsemen can ride abreast. Perceiving that, if the inhabitants wished to practise any treachery against us, they had plenty of opportunity, because the said city being built as I have described, they might, by raising the bridges at the exits and entrances, starve us without our being able to reach land, as soon as I entered the city I made great haste to build four brigantines, which I completed in a short time, capable, whenever we might wish, of taking three hundred men and the horses to land."[32]

Illustrations of simple bridges are found in the codices. In the Codex Mendoza (our fig. 6, *a*) is a representation of a stream crossed by a bridge of four planks. On each side of the bridge is a road, indicated by footprints. The painting bears the legend, "Road or street with its bridge of wood." Fig. 6, *b*, is the glyph for the town of Quauhpanoayan; it is from the Codex Mendoza, representing a town captured by the Aztecan king Axayacatl, who ruled in 1469-81. The name of the town means "place where one passes the river." The other representation of a bridge (fig. 6, *c*) is from the Tribute Roll of Montezuma, being a variant of the glyph of the same town. The first glyph shows a bridge consisting of a single log across the stream, while the second represents one with two logs.

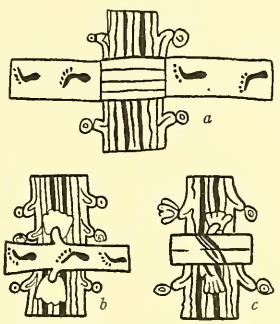


FIG. 6.—Glyphs representing bridges

The words for bridge in the Mexican or Aztec language, as given by Molina, are: bridge of timbers, *quappantli*, *quauhpanauaztli*; foot-bridge, *toxoc paluacaliuhca*.

HOUSES AND TEMPLES

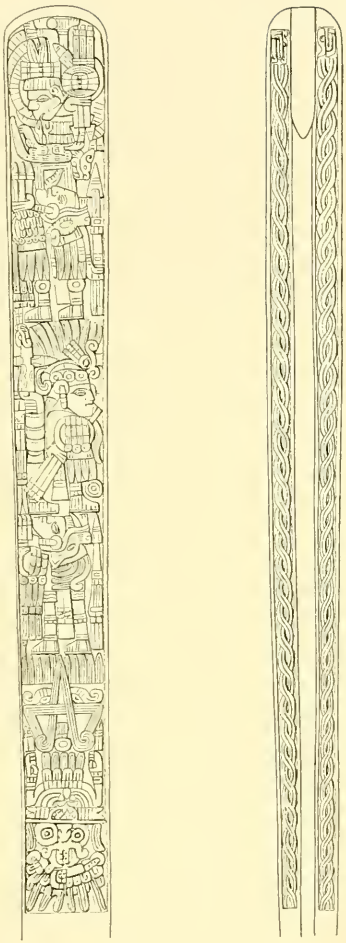
Throughout central Mexico, and even southward in the State of Oaxaca, the houses of the common people were simple huts built of adobe bricks, sometimes of stone, with flat wooden roofs. The religious temples and palaces, and the dwellings of the nobility, were built of stone, often two stories in height, with flat roofs of timber-work.

In his march to Tenochtitlan, the attention of Cortés was directed to some new houses which were in course of building in the suburban town of Ixtapalapa, just before he reached the capital city of Montezuma. In his letter to the King he states that, "although unfinished, they are as good as the best in Spain; I say as large and well constructed, not only in the stonework, but also in the woodwork, and all arrangements for every kind of household service, all except the relief work, and other rich details which are used in Spanish houses but are not found here."[33]

Bernal Díaz, a companion of Cortés, states that the houses in which they were lodged during the night spent in Ixtapalapa were "spacious and well built. They were of beautiful stonework and cedar wood, and the wood of other scented trees, with great rooms and courts, wonderful to behold, covered with awnings of cotton cloth."[34]

In regard to the construction of the great temple of Tenochtitlan, Cortés notes, concerning the many temples composing the group, that "they are so well built, in both their masonry and their woodwork, that they could not be better made or constructed anywhere; for all the masonry inside the chapels, where they keep their idols, is carved with figures, and the woodwork is all wrought with designs of monsters and other shapes."[35]

This probably refers to the temple of Huitzilopochtli. We have further information from Bernal Díaz that he noticed in one of the halls "two altars with richly carved boardings on the top of the roof."[36] These two statements show that in



ATLATL 1, FRONT AND REAR VIEWS

MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION

many of the great temples and palaces the ceilings were sheathed with carved and probably gilded boards.

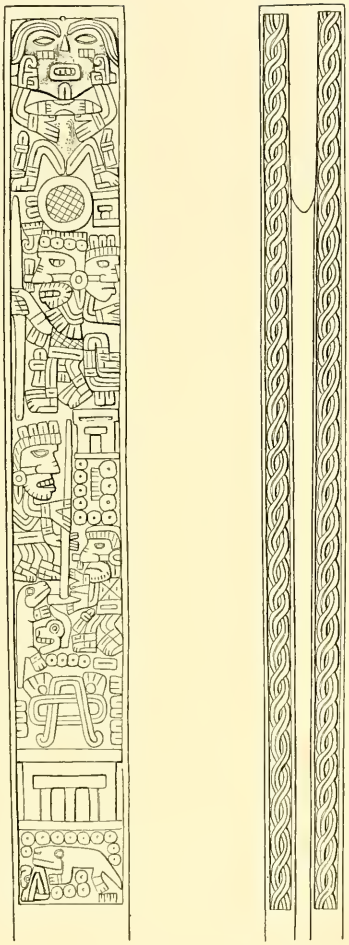
Pomar states that the form and construction of the houses of Texcoco was low, with no upper story. Some of them were built of stone and lime, others of stone and simple clay, while most of them were of adobe. The roofs were of beams of wood, and instead of planking there were small strips of wood so well fitted together that none of the earth covering could sift through. Most of the houses enclosed a court around which were the rooms they required—the dormitories and reception rooms for the men in one portion, and those for the women in another; their storage place, kitchens, and corrals. The houses of the principal men and caciques, particularly those of the kings, were very large, with massive woodwork. These stood on platforms, the lowest of which was six feet high and the highest thirty to forty feet. The largest rooms were more than a hundred feet square, and in the middle were many wooden pillars at fixed intervals, resting on great blocks of stone, and on these the remainder of the woodwork was supported. These rooms had no outer doors, only doorways with wooden posts like those inside. The floors were of white stucco or cement.[37]

In a recently published inedited relation on Mitla, written by Alonso de Canseco in 1580, is found an important description of the famous buildings at that site in the State of Oaxaca. It tells of the method of roofing employed. From a close examination of the external evidence, Holmes has rightly conjectured that wooden beams were used, but he surmised that the covering of the beams may have been poles, twigs, and matting, over which the roof of rubble or cement rested. Canseco's report is so interesting that we present a translation of this part:

"The natives make the walls of their dwelling houses of adobes, covered with a flat roof, and others covered with thatch; and if they wish to make them of stones, they can well do it, for they have much near the town, woods (*montes*) not

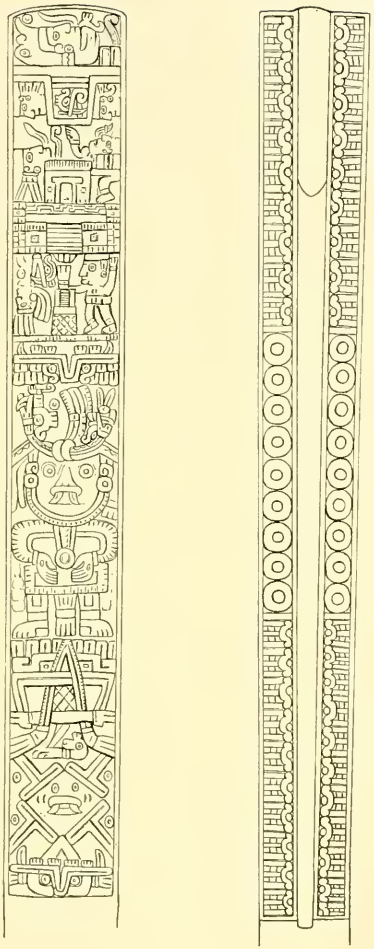
far off where they can take out wood. The other materials they have in the town. Besides this, there are in this town of Miquitla, two edifices of the greatest grandeur and fame that are (to be found) in this New Spain. They are situated an arquebus shot from the site of the same town, to the north of it, and on level ground. These edifices are of white hewn stone; they rise equally in importance some 30 feet. The first edifice is square; it has four halls, each one of which is 105 feet long and 28 feet wide. The lintels of the doors are of white stone in a single piece running 25 feet long, and on edge and width having the dimensions of a man of medium stature. The roofing of these halls is of bulky savin-wood beams (*morrillos*), of the size of a man of medium corpulency, which are placed close together, without any other wood. Throughout the middle of these halls runs a slab of wood which is supported by columns of stone of the size of a yard and a half in thickness."[38]

Recent explorations have shed an interesting sidelight on the employment of wood in the erection of the great temples. In uncovering the temple of Quetzalcoatl in the great court of the so-called Citadel Group at the ruins of Teotihuacan, Reygadas carried to completion the excavations undertaken by Gamio. In one place a great cedar beam was found surrounded by a kind of fencing for protection (pl. III). Near the southern base of the steps leading to the top of the pyramid were found six deep shore holes, in each of which was set a great wooden post, believed by the explorer to have served as trusses to facilitate the erection of the pyramid (pl. IV). These large logs and smaller rods, all of cedar, are now preserved in the local museum at Teotihuacan. It should be noted here that the presence of these logs and rods employed in the building was due to the fact that the front of this pyramid, the base of which is shown in pl. IV, was preserved by the erection of another pyramid against this side of the temple, the wood being left in the space between the two structures.[39]



ATLATL 2, FRONT AND REAR VIEWS

MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION



ATLATL, FRONT AND REAR VIEWS

DORENBERG COLLECTION

FURNITURE

No examples of the furniture and furnishings of the temples and palaces of the ancient Mexicans are extant. A few meager facts may be ascertained from the early writers and the codices, but the beautifully carved, painted, and gilded chairs, tables, screens, chests, wardrobes, and ceiling sheathings have all disappeared.

Sahagun devotes a short chapter to the seats, writing that "the lords used some seats, with backs, made of sedge (*juncias*) and of canes, which they called *tepotzoicpalli* and which are still used. In times past, as a demonstration to their lord and as a mark of dignity, the seats were covered with skins of wild beasts, such as tigers, lions, ounces, wildcats, and bear, and also with tanned deerskins. They also used some seats of small squared stalks about a palm or more high, which they called *tolicpalli*; these were covered with the same kinds of skins as were those used by the lords." Sahagun further remarks that, when a special dinner was given by the lords, "all seated themselves close to the walls upon *petates* [mats] or upon *ycpales* [seats]."[40]

Bernal Díaz, an eye-witness at the time of the conquest, in describing Montezuma's manner of living, wrote regarding the way his meals were served: "He was seated on a low stool, soft and richly worked, and the table, which was also low, was made in the same style as the seats . . . As soon as he commenced to eat they placed before him a sort of wooden screen painted over with gold, so that no one should watch him eating." If the weather was cold they built a fire of scented bark; "and so that it should not give off more heat than he required, they placed in front of it a sort of screen adorned with figures of idols worked in gold."[41]

There are no representations of these carved and gilded screens in the codices, but there are very many paintings of the seats, or *icpalli*. We find in Molina that a common seat or chair was called *tzatzaz icpalli*. A royal throne or ceremonial

seat was *tlatoca icpalli*, a combination of the word *tlatocayo*, crowned king, and *icpalli*, seat. Three of the stools are shown in fig. 7, of which *a*, from the Codex Magliabecchiano, is without a back, and the god Tezcatlipoca was seated on it.

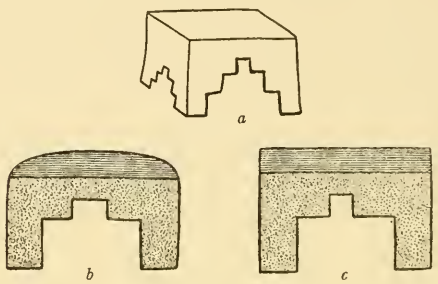


FIG. 7.—Stools

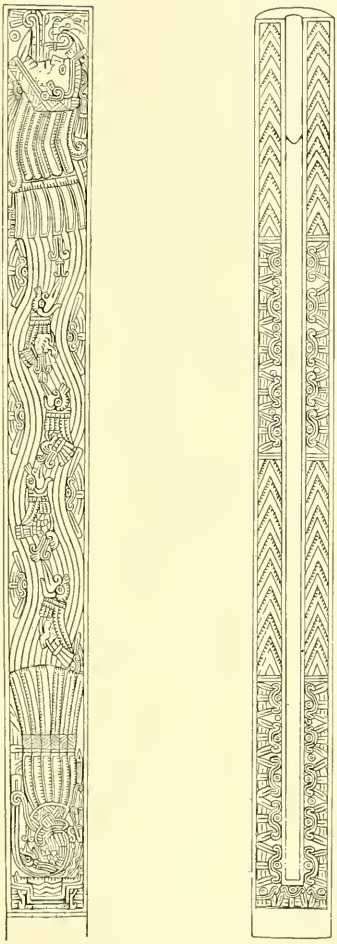
The other two (*b*, *c*), also without backs, are the ordinary low seats mentioned by Sahagun, upon which animal skins were placed. Pl. v illustrates a number of simply carved chairs or thrones with backs, taken from various codices to show their massive character. The backs of seats *h* and *i* appear to be covered with skin, and *i* is exceptional in having no legs. These representations in the codices are our only means of knowing the style of these pieces of furniture.

Wooden vessels and jars were used by the Aztec, for Bernal Díaz in describing the great market at Tlaltelolco, a suburb of Tenochtitlan, mentions "gaily painted jars made of wood" which were for sale. This undoubtedly refers to the so-called lacquer-work still surviving in Mexico and Central America. Today the Indians of Michoacan, especially at Uruapan, are famous for this class of work, decorating gourds, wooden plaques, and table-tops with lustrous, beautifully executed patterns. In the list of barter obtained by Grijalva in 1517 from the Mexican coast, we find noted "four plates of wood covered with golf leaf," and the editor adds "or jicaras like

a *b* *c* *d*

ATLATLS FRONT AND REAR VIEWS

STATE ETHNOGRAPHICAL MUSEUM, BERLIN



ATLATL, FRONT AND REAR VIEWS

STATE ETHNOGRAPHICAL MUSEUM, BERLIN

great dishes of large calabashes."[42] It would seem that the use of highly decorated vessels of wood was restricted to the nobility, for the statement is made in the Codice Ramírez that the common people were allowed to use only clay vessels.[43]

In two of the undated inventories of loot obtained by Cortés during the earliest years of the conquest, boxes are mentioned as containing some of the precious objects and curiosities sent to Spain.[44] One of these, the "Statement of Pieces, Jewels, and Featherwork Sent from New Spain for His Majesty, and that Remained in the Azores in Charge of Alonzo Dávila and Antonio Quinoñes," mentions two boxes, two small boxes, two small square boxes, and a round box lined with deerskin, all no doubt of native workmanship. The other inventory, "Report of the Things Carried by Diego del Soto from the Governor in Addition to what he Carries Listed in a Notebook of Certain Sheets of Paper for His Majesty," specifically enumerates a number of objects endorsed, "In a large wide box made in the Indies." Two other boxes are mentioned, one of which contained, among other things, two "*abitalles*," which word we conjecture to be a misspelling of *atabales*, or drums, probably referring to the wooden drum, the *teponaztli*. Possibly these two drums may be among those which we later describe as now being in one or another European museum.

As to the boxes sent by Cortés, we know of no such objects preserved in the museums of Europe. They were called *quauhpetlacalli*, the component parts of the word being *quauitl*, wood; *petlatl*, a mat; *calli*, house. In connection with their marriage ceremonies Camargo writes that among the things presented to a newly-married couple by their relatives were wooden trunks or chests for containing clothing.[45] Regarding the immense chests or closets for garments in the house of Montezuma, we have an interesting statement from Zuazo, who in 1521 wrote: "They say that Montezuma had houses and palaces and halls in which a man might be lost

without knowing how to get out; and boxes and chests of large size filled with clothing, made of wood with covers that could be opened and closed like some *colgadizos* (shed-roofs?), and that the bodies of these boxes and chests were like houses of from seventy to eighty feet in length, with a proportionate width."[46]

Pomar relates that on the death of the kings of Texcoco, after long ceremonies the body was cremated, and the ashes were put in a box of stone or wood and placed in a designated spot in one of the rooms of the royal palace.

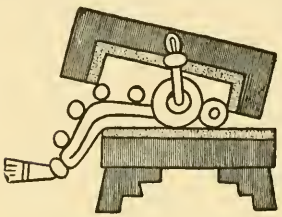
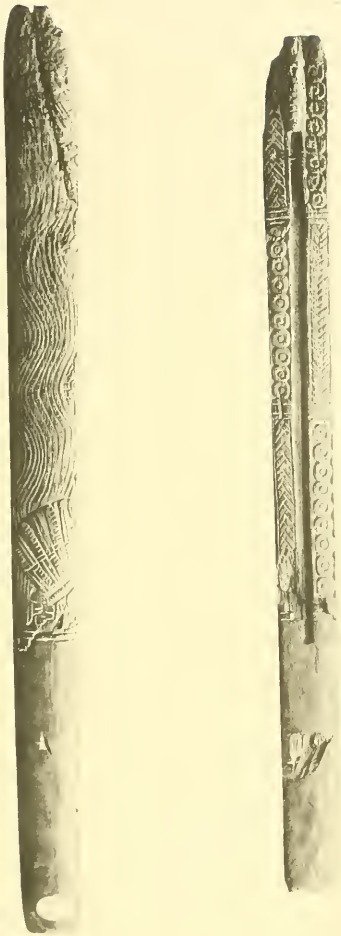


FIG. 8.—Chest with cover

In fig. 8 is shown a kind of ceremonial box copied from the Codex Féjérvary. A stool with a cover, partly raised, from which some ceremonial object is issuing, shows the character of wooden boxes used in connection with certain religious festivals.

WEAPONS

IN warfare, weapons of wood played an important part. Bows were fashioned of flexible wood, and their strings were made of tendons of animals, of braided deerskin, or of vegetal fiber. Sometimes the bows were of such length that their strings were five feet long. They called a bow *tlahuitolli*. Many plain bows are represented in the codices, but no well-authenticated specimen of bow is known to exist. Peñafiel has illustrated a bow attributed to Mexico, which is in the Museum of Arms at Brussels.[47] This is the only known specimen supposed to represent a Mexican weapon of this character; yet there is a possibility that it may have come from some part of South America, as known South American specimens in European museums have incorrectly been ascribed to ancient Mexico. At the same time, it may be well



a *b*

ATLATL FRONT AND REAR VIEWS

NATIONAL MUSEUM, MEXICO

to explain why there is good reason for the existence of important specimens of Aztec art in Brussels. In 1519, when Cortés sent to Spain his first shipment of loot from the Mexican coast Indians, together with certain presents forwarded to him from Tenochtitlan by Montezuma, Portocarrero and Montejo, the proctors sent in charge, carried an inventory, which has been published in recent years. It is reasonable to assume, although they are not specifically mentioned, that some of the weapons, as well as the clothing and shields noted in the list, would have been included in the loot. When the caravel arrived in Sevilla early in November of the same year, Charles V of Spain was in Barcelona, and a messenger was immediately dispatched to carry the news of the arrival to him. Meanwhile the King went to Tordesillas, near Valladolid, and he ordered the treasure to be sent thence for his inspection, where he examined it in April, 1520. As Charles V had been reared in Flanders, he was at this time surrounded by Flemish courtiers. During the summer he sailed with his entourage from Coruña for Flanders, en route to Germany to be crowned emperor. He apparently took the greater part if not all the loot with him, for it was seen in Brussels by the artist Dürer in the late summer or early fall. Among other things which Dürer saw, he mentions "two rooms full of the armor worn by the people there [in Mexico], likewise all kinds of wonderful arms, harness, and weapons."[48] How much of this treasure the King gave to his courtiers or left in Flanders we do not know, but it is certain that some of it passed to Germany, and possibly other pieces were given to people in Italy, for a few which undoubtedly are attributable to the shipment of Mexican objects sent to the King by the first caravel have come to light in both Austria and Italy. Hence the so-called Mexican

Fig. 9.—Decorated bow

bow may well be genuine. There is also a feather mantle in Brussels, likewise said to have come from Mexico. The bow in question (fig. 9) is about five feet long and is entirely decorated with diamond-shape designs. In fig. 10 are illustrated two Mexican warriors using the bow and arrow in the defense of their country against the Spaniards, copied from the Lienzo of Tlaxcala, a contemporary history of the conquest of Mexico painted in pictures by a native Tlaxcalan.

Aside from wooden helmets and shields used as part of the accouterment of ancient Mexican warriors, they fought with

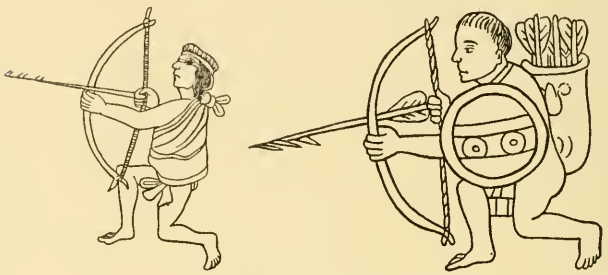
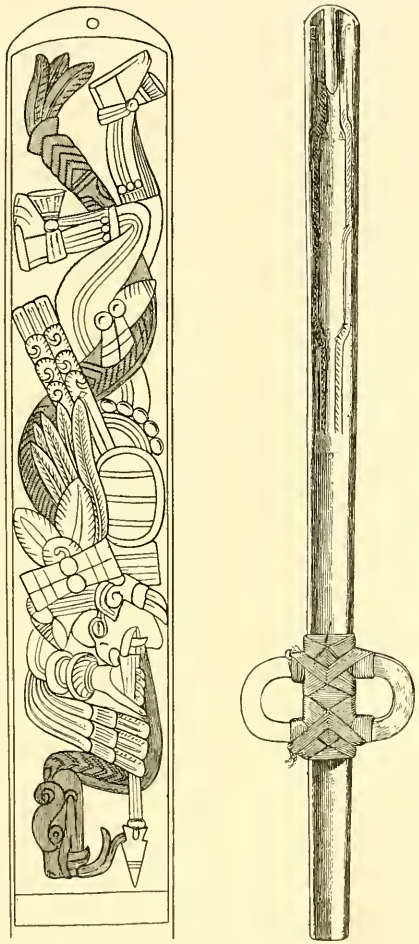


FIG. 10.—Mexican warriors with bows

atlatls, or spear-throwers (to be considered later), bows and arrows, lances, and wooden clubs. But their most effectual weapon was the *maquahuitl*, a kind of saw-sword made of wood with a row of razor-like obsidian knives set in each edge. No examples of this type of sword have come down to us. In fig. 11 are reproduced three *maquahuitls*, copied from the Lienzo of Tlaxcala. These short handled weapons were sometimes of such size that they were wielded with both hands. The Anonymous Conquerer describes a double-handled *maquahuitl* which he saw in use during the conquest, stating that its hilt was not very long, about three fingers in breadth, the edges being grooved for the insertion of the stone flakes that cut like a Toledo blade. He writes that



GILDED ATLATL, FRONT AND REAR VIEWS

BRITISH MUSEUM

he "saw one day an Indian fighting with a mounted man, and the Indian gave the horse of his antagonist such a blow in the breast that he opened it to the entrails, and it fell dead on the spot. And the same day I saw another Indian give another horse a blow in the neck, that stretched it dead at his feet."[49]

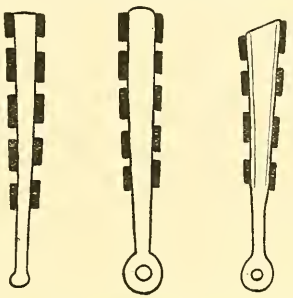


FIG. 11.—Maquahuitls or saw-swords

Clubs were made of a heavy wood and were provided with a rounded head. The name of club was *quauhololli*. Their shape is shown in fig. 12, taken from the Lienzo of Tlaxcala. No examples of these warclubs have come to our notice.

We shall not consider here the wooden shields used by war chiefs and on ceremonial occasions, inasmuch as they have already been treated in our *Turquois Mosaic Art in*

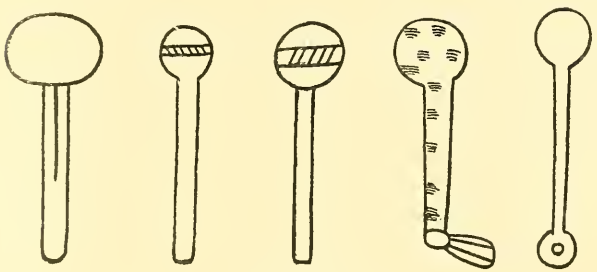


FIG. 12.—Clubs

Ancient Mexico.[50] The wood of the shields was not ornamented by carving, so far as we know, the embellishment always being either of feather-work or of mosaic. Shields

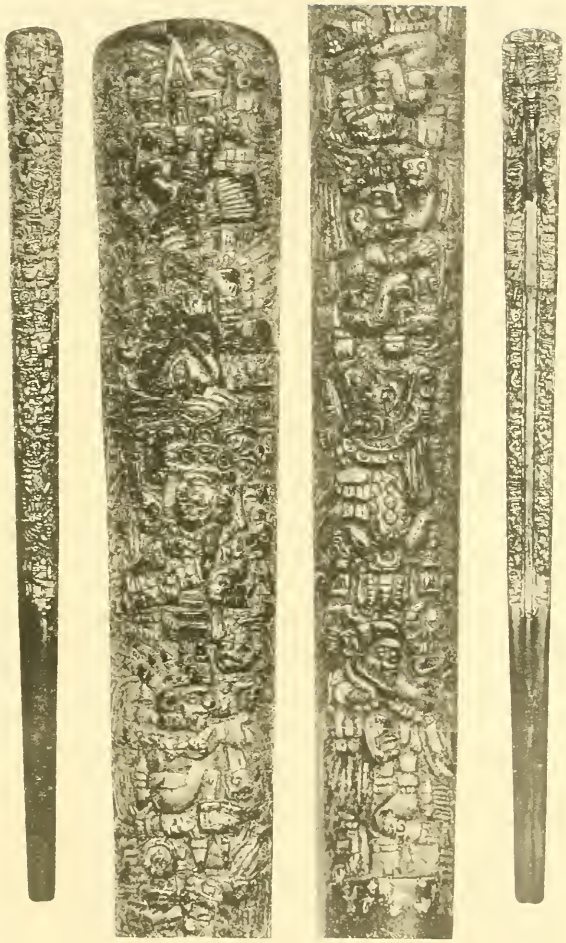
used in defensive warfare by the soldiers were probably not decorated, and no examples are known.

A wooden helmet decorated with turquois mosaic is also illustrated in the work last cited. Bernal Díaz, writing of the paraphernalia of the soldiers, says that they had "casques or helmets made of wood and bone, highly decorated with feathers on the outside."

CEREMONIAL OBJECTS

THE reckless destruction of the cities and works of art of the Mexicans by the Spaniards will ever be lamented. Clavigero well expressed the universal sentiment when he wrote: "We have to lament the furious zeal of the first Bishop of Mexico, and the first preachers of the gospel, who, in order to remove from the sight of their converts all incentives to idolatry, have deprived us of many valuable monuments of the sculpture of the Mexicans. The foundation of the first church built in Mexico was laid with idols, and so many thousand statues were then broken in pieces and destroyed that, although the kingdom was most abounding in works of that kind, at present the most diligent search can hardly find any of them remaining. The conduct of those missionaries was no doubt laudable both in cause and effect, but they should have distinguished between the innocent statues of those people and their superstitious images, that some of the former might have been kept entire in some place where no evil consequences would have attended their preservation."[51]

Although Clavigero refers especially to works in stone, his comments apply also to works in wood, which were more easily destroyed. When, as we know, the first Archbishop of Mexico, Zumarraga, collected the ancient records, or codices, from all parts of the Valley of Mexico, especially Texcoco, and had them burned in the market place of Tlaltelolco, it is not to be doubted that the flames were also fed by priceless examples of the woodcarver's art. Indeed, Clavigero writes that Zumarraga states that in the course of eight years more



a *b* *c* *d*

GILDED ATLATL FRONT SECTIONAL AND REAR VIEWS

PREHISTORIC AND ETHNOGRAPHIC MUSEUM, ROME

than twenty thousand idols made of clay, stone, and wood, were destroyed by the Franciscan fathers outside of the capital city. A little later, Landa, Bishop of Yucatan, destroyed by fire all he could collect of native books, idols, etc. The editor of the Campeche edition of the work of Cogolludo[52] states in the appendix that he had access to a document in which is given a list of objects thus destroyed, estimating that five thousand idols of various forms and dimensions, as well as manuscripts, were burned. Here again we must assume that many of these so-called "idols" were of wood, and that they included drums, altatls, boxes, and other carvings.

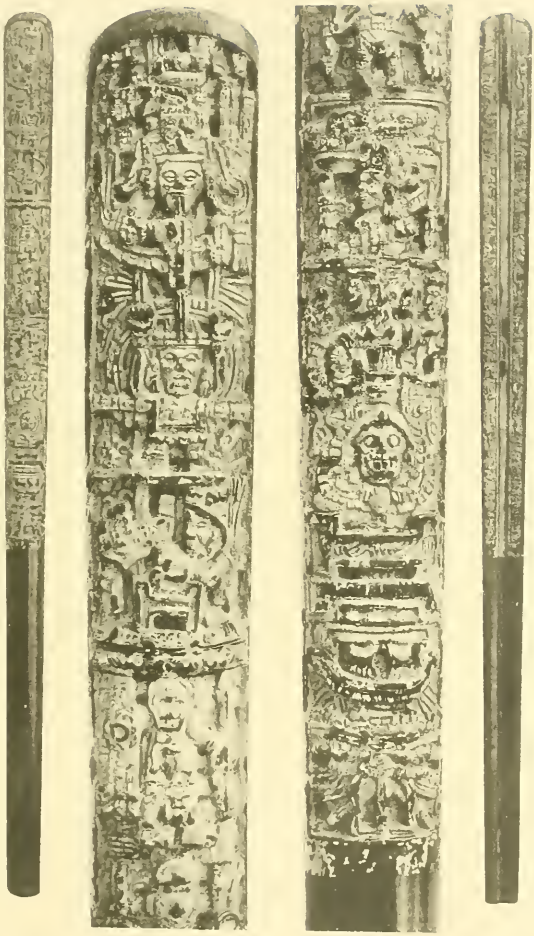
MISCELLANEOUS

Wood was often employed by the Aztec for making covers for their books or codices. Two examples have come down to us, one being known as Codex Vaticanus No. 3773, now preserved in the Vatican Library in Rome, the other, the Vienna Codex,[53] now in the State Library but formerly in the Court Library in Vienna. In the facsimile publication of the Codex Vaticanus No. 3773, under the patronage of the Duc de Loubat, the wooden covers are faithfully imitated, even to the turquois inlay in the original. Seler states that this example of covers is unique, but in the summer of 1924 the present writer had the opportunity of examining both the Vatican and the Vienna codex, each of which is similarly covered. In both instances the wood is hard and brownish, the thin, well-finished slabs being cemented to the outside of the first and last leaves of the prepared skin on which the pictographic contents of the book are painted. In the Vienna Codex the covers are four millimeters, or slightly less than three-sixteenths of an inch, in thickness. They are slightly unequal in size, the upper cover being 259 mm. long by 222 mm. high, the under one 277 mm. long by 225 mm. high. The leaves are a trifle smaller than the covers, being 255 mm. long by 222 mm. high. The Vatican Codex is considerably smaller, each

cover being 146 mm. long by 126 mm. high, and are only three millimeters in thickness. The upper cover of this codex bears four depressions of a symbolic character in which formerly mosaic settings had been fixed. Most of the remaining codices have thick, stiff, skin covers, indicating that only in special cases, perhaps for books of prime importance, was wood employed for the purpose.

In the *Crónica Mexicana* of Tezozomoc is found the statement that captives brought before Montezuma were tied together hands and feet, while others were held prisoners with wooden collars, called *cuauhcozcatl*,[64] around their necks.

A final note regarding the miscellaneous uses of wood should include mention of gilded wooden beads, with little gold quills inserted in the holes, which were obtained by Grijalva on the Mexican coast in 1517.



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GILDED ATLATL FRONT SECTIONAL AND REAR VIEWS

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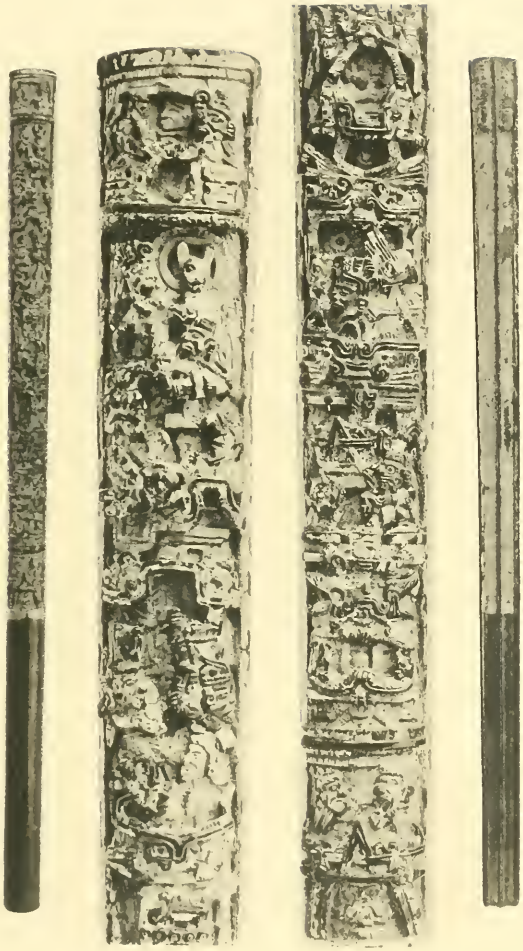


GILDED ATLATL FRONT SECTIONAL AND REAR VIEWS

NATIONAL MUSEUM OF ANTHROPOLOGY AND ETHNOLOGY, FLORENCE

EXISTING SPECIMENS OF WOOD-CARVING

We have shown that examples illustrating the manifold uses of wood in buildings, and in ceremonial and utilitarian objects, were almost entirely destroyed soon after the arrival of the Spaniards in Mexico. Of the thousands of wooden idols, called *quauhximalli*, which must have been placed in the myriad temples and household shrines of Old Mexico, we are able to describe only seven pieces. The spear-throwers, or *atlatls*, are so rare that thus far only twelve examples have come to light. Of these, four gilded specimens in European museums were probably sent to the Old World soon after the conquest, probably by Cortés himself. The other eight pieces have made their appearance in recent years in the region of the Mixteca, possibly having been hidden away in caves or preserved in remote villages by the natives. Horizontal drums, the *teponaztli*, are somewhat more numerous, for there are about two dozen that have descended from pre-Spanish times. The three upright drums, or *huehuetl*, about to be described, belong to the same period. There are perhaps a sufficient number of ancient drums still in Indian hands to swell the total number of known Mexican wooden objects to three score. To these must be added the wooden ceremonial masks and shields embellished with mosaic, of which forty-two have hitherto been described and illustrated by the author, but on account of their special technique are not included in this work. Only plain, carved, gilded, or painted artifacts of wood are herein treated.

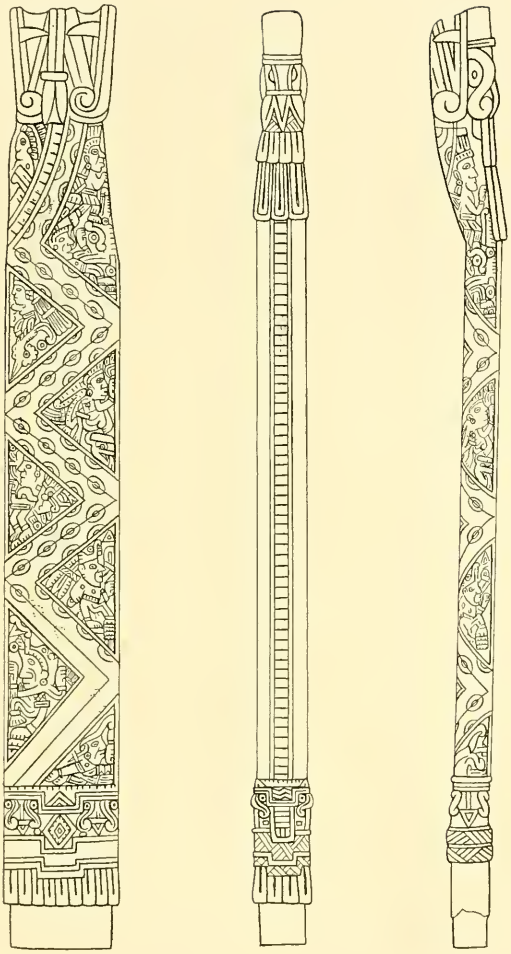
Doubtless future archeological research in favorable parts of Mexico may reveal other wooden objects, for the two atlatls, as well as the mosaic masks and shields in the Museum of the American Indian, Heye Foundation, above alluded to, were found under conditions that bespeak their antiquity.

ATLATLS OR SPEAR-THROWERS

THE spear-thrower, or *atlatl*, as it was called in the Nahuan language, had a wide distribution in ancient America. It was in use by the Eskimo from Alaska to Greenland and among the Indians of the Northwest coast, while its far-flung southern limit is lower South America. As this implement has been the occasion of numerous studies, we shall consider it here only insofar as it pertains to the subject-matter of our treatise.

Since the study of the spear-thrower among the Eskimo published by Otis T. Mason in 1884, followed in 1887 by Max Uhle's valuable paper calling attention to the prevalence of the implement in Mexico, Central America, the West Indies, and South America, in pre-Spanish times, many other writings dealing with the subject have appeared. Among these we may cite as of prime importance the work by Mrs. Nuttall on *The Atlatl or Spear-thrower of the Ancient Mexicans*. The geographical distribution of this type of weapon in ancient America was widely extended. In regions where climatic conditions are conducive to the preservation of wooden objects, in such places as dry caves and rockshelters, discoveries of spear-throwers have been made in the United States in recent years, as we have shown, and doubtless other discoveries will be made from time to time as archeological research progresses. We are firmly of the opinion that this weapon was widely disseminated among the tribes of the United States from the Rockies to the Atlantic seaboard, although it is not probable that our belief will ever be confirmed by archeological evidence.

In South America, however, the spear-thrower generally seems to have had an independent hook set in the shaft of the stick, made of stone, metal, bone, or shell, for in many places, notably in Colombia, Ecuador, and even in the Antilles, there have been discovered many hooks which may be regarded as having served as parts of spear-throwers,



SERPENT ATLATL, FRONT, REAR, AND SIDE VIEWS

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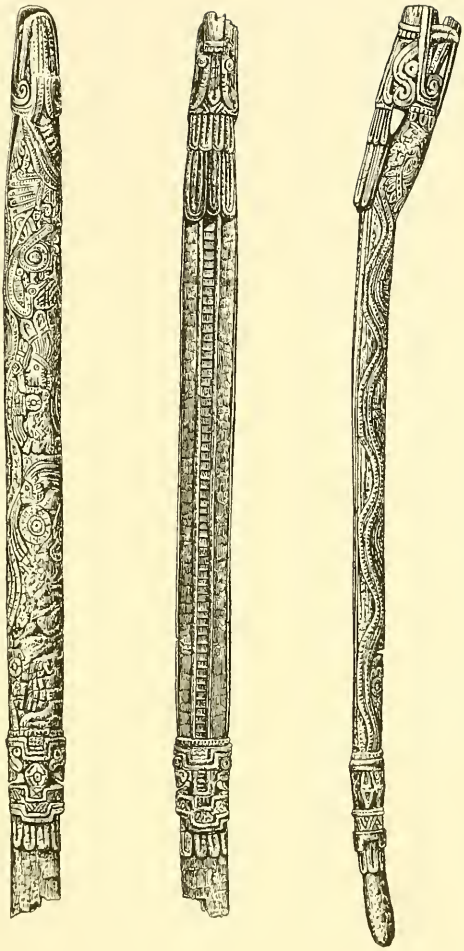


SERPENT ATLATL, FRONT, REAR, AND SIDE VIEWS

DORENBERG COLLECTION

the wooden shafts having long disappeared. It seems safe to conjecture that this weapon probably came into use long before the bow. It is one of the most ancient, as well as one of the most widely distributed, instruments in ancient America that has come down to us from a number of culture areas. Ethnologists in time will doubtless discover its existence among various tribes, as yet but little studied, in Middle and South America.

It would seem that with the increased use of the bow in America north of Mexico, the use of the spear-thrower passed largely into disuse long before the coming of the whites, except on the Northwest coast, and in Boreal America among the Eskimo, where it still survives. In Mexico and in parts of South America it is also still found, but it is rapidly giving way to the advances of civilization.

In 1891 Mrs. Zelia Nuttall published her paper on the atlatl of Mexico,[55] in which she showed conclusively its importance in that region as a ceremonial object, and set forth some of the many instances in which it is depicted in the codices, on sculptures, and on the walls of some of the buildings at Chichen Itza in Yucatan. At that time Mrs. Nuttall knew of but three examples of ancient Mexican atlatls. Its presence had not been suspected in three culture areas of the United States, nor had its occurrence been discovered in pre-Inca remains on the Peruvian coast, where it is now known as the *estólica*.[56]

The atlatl was employed by the native hunters and fishermen, as well as by the warriors of Mexico; it was also commonly used ceremonially in certain religious festivals and processions. In different parts of Mexico this implement was commonly employed for taking fish and aquatic fowl abounding in the lakes, and it is still in use on Lake Patzcuaro in Michoacan and in Lake Texcoco in the Valley of Mexico. Mrs. Nuttall believes the instrument did not come into general use until the Aztec took up their abode in the Valley of Mexico, where the food quest forced them to resort to aquatic

chase. The Mayan representations in sculpture at Chichen Itza, Yucatan, show unquestioned Mexican influence. Doubtless the Toltec were the first to create a purely military and ceremonial form of the atlatl.

In this work we shall illustrate nine other atlatls from ancient Mexico which have come to light during the last three decades, and note the discovery of six examples recovered from the mud beneath the waters of the sacred well, or *cenote*, of the Mayan city of Chichen Itza. It also seems appropriate, for comparative purposes, to mention briefly the ancient use of this implement in our own country.

A little more than thirty years ago the first spear-thrower found in the United States was recovered from a Basket Makers deposit in southern Colorado,[57] and since that time perhaps a dozen more or less complete specimens have come to light in association with remains of the culture of the same prehistoric people in southern Colorado and Utah, and in northern Arizona. In pl. VI, *a*, is represented a specimen in the Museum of the American Indian, Heye Foundation, found in 1894 with a mummy in Grand Gulch, Utah. It measures 22⅞ inches in length, and has rawhide finger-loops for clutching the stick. This example is typical of the atlatls found in the Southwest. The groove or trough where the hook or propelling spur is situated is very short, unlike that of the Mexican specimens, which often extends two-thirds of or even the entire length of the implement. So, too, only one of the twelve known atlatls from Mexico possesses finger-loops, although they are plainly shown in many of the paintings in the codices and in wall-paintings of Chichen Itza.

A recent extension of the culture area of the Pueblo people, and possibly of the Basket Makers of the Southwest, was made by Mr. M. R. Harrington in 1924 for the Museum of the American Indian, Heye Foundation, in his noteworthy discoveries in northwestern Nevada, not very far from the California boundary, and later in southeastern Nevada, where the research is still in progress. Without dwelling on the

a *b* *c* *d* *e*

MINIATURE ATLATLS FROM AN EXCAVATION NEAR THE SITE OF THE GREAT TEMPLE OF MEXICO

NATIONAL MUSEUM, MEXICO

exploration of the ancient pueblo known as Pueblo Grande de Nevada, we would call attention to the excavation of a number of caves near Lovelock, in Humboldt county. The material found here is of extraordinary interest, the objects of wood, basketry, etc., of a usually perishable nature, being in a good state of preservation. Among the most interesting of the finds are fragments of four spear-throwers, of which we illustrate two in pl. VI, *b*, *c*. The former of these, in its fragmentary condition, is eight inches long and three-quarters of an inch in maximum width. It is an almost flat stick, with carefully rounded edges, the workmanship being the best we have seen in woodwork of its kind from the Southwest, the surface being finely smoothed and the lines of the atlatl accurately fashioned. At the extreme end of the weapon is a hook, five-sixteenths of an inch long, raised above the surface, not countersunk as in the Utah and other specimens from the Southwest. It has a somewhat broad, well-cut groove that gradually widens from the hook and which probably extended the entire length of the stick to the grasping end. The presence of this groove differentiates this atlatl from the type of these implements already known from the Southwest.

The other example illustrated from the Lovelock cave (*c*) is different in construction from the preceding. This fragment, 11 inches in length, is carved from an irregular piece of wood and is not so carefully finished as specimen *b*. The raised hook begins at the end of the stick, this portion being one inch in length and ending in a slight notch. A sectional view at the end of the stick reveals it to be circular, with a shallow biconical depression. On the flattened surface of the weapon, in front of the hook, is a deep groove, about an inch and a half long, the two sides merging at the bottom. A very slight gouging of the surface continues for an inch and a half more toward the grasping end.

Another region of the United States has revealed the existence of the atlatl. The Museum expedition operating in 1922-23 under the direction of Mr. Harrington in certain dry

rockshelters in the Ozark mountain region in northwestern Arkansas, was fortunate enough to discover one complete and several broken examples of atlatls.[68] In pl. v, *d*, is shown the entire specimen, which is 19 inches long and differs from other examples found in the United States in having a clutch formed of a peg driven through a hole in the shaft. The hook or spur is a slightly gouged-out projection. The occurrence of this implement in the Mississippi valley is of great interest. The type exemplified in this specimen will be referred to later in considering certain miniature atlatls found recently in the City of Mexico, which also are provided with the clutch peg.

The third culture area in this country in which the atlatl has been found is at Key Marco, southwestern Florida. Cushing conducted an epoch-making exploration of this site in 1895, recovering from the muck four or five examples of atlatls, fragmentary and entire. Two of the more perfect ones are shown in pl. vi, *e*, *f*. The first of these is about 18 inches long and has two finger-holes like the modern Tarascan implement. Cushing writes: "The shaft-groove terminated in an ornamental device, and the whole implement was delicately carved and engraved with edge-lines, and when first taken from the muck exhibited a high polish and beautiful rosewood color." The second Key Marco specimen was somewhat longer, and of a quite different type, as it has only one finger-hole. Of this specimen Cushing says: "At the smaller end was a diminutive but very beautiful carving of a rabbit, in the act of thumping, so placed that his erect tail formed the propelling spur. This instrument also was fitted with a short shaft-groove and was carved and decorated with edge and side lines, and the handle end was beautifully curved down and rounded so as to form a volute or rolled knob."[69]

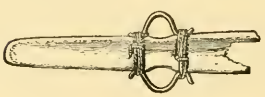


FIG. 13.—Atlatl fragment

In fig. 13 is shown a fragment of an atlatl found in a cave containing mummies on the hacienda of Coyote, State of

DRUMS

AFTER VARIOUS CODICES

Coahuila, figured by Seler.[60] The two finger-loops resemble those of the Basket Makers specimens from our Southwest. We have examined in the collections of the Peabody Museum of Harvard University an entire atlatl obtained by Dr. Edward Palmer in 1880 from a burial cave in the same locality. The wood is seemingly identical with that of the Basket Makers atlatls, but the hook in this instance is raised above the level of the slightly concave surface of the stick, while in the Basket Makers specimens the hook is countersunk in a short groove. The Peabody Museum example (pl. VI, *g*) is 20 inches long, and shows no evidence of the presence of finger-loops.[61]

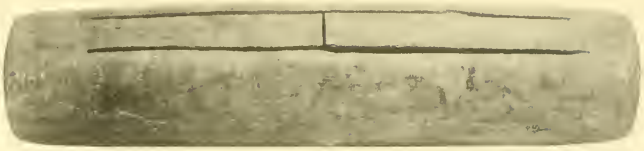
Finally, in this introduction to the description of the ancient Mexican atlatls we have to note the modern survival of the implement among the Tarascan Indians living today in the vicinity of Lake Patzcuaro, Michoacan. It is known by the Tarascan name *tsupakua*,[62] and is used by the natives in hunting ducks on the lake. The specimen illustrated (pl.VI, *h*), in the Museum of the American Indian, Heye Foundation, is 26¼ inches in length. The two holes are for the fingers, and the spear-shaft lies in the groove resting against the hook. A larger spur on the other side of the propelling hook is for dragging floating spears to the canoe. These spears are long canes with two or three divergent iron points firmly bound in. In former times stone points were used. These modern implements are several inches longer than any other specimens which we have to consider from North America; and those from South America, which we shall not touch upon at this time, are also shorter.

While this study was in progress, we received from Mexico the issue of *El Mexico Antiguo* for March, 1925, which contains an interesting communication written by the editor, Hermann Beyer, on "La Tiradera (Atlatl) todavía en uso en el Valle de Mexico." In this paper Beyer calls attention to the present-day use of the spear-thrower, as he states, "in front of the doors of the capital." Its survival in the Valley of

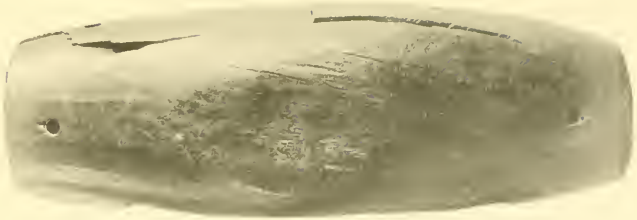
Mexico and its use by hunters of aquatic birds seem not hitherto to have been even suspected by ethnologists, although Starr, in writing of its use on Lake Patzcuaro, says, "Anciently a spear-throwing stick was widely used through Mexico; today it lingers in few places, the best known of which is Lake Patzcuaro."

Concerning this notice of the use of the atlatl in the Valley of Mexico, Beyer writes that a few weeks earlier he had observed in the town of Atenco, district of Texcoco, some boys in the possession of a variant of the atlatl (see pl. VI, *i*). Later inquiries revealed its present use in various neighboring villages, including La Magdalena and Tocuila, and that only a few decades ago, before the drying up of Lake Texcoco and the gradual receding of its shores, it was used by nearly all the adjacent villagers. Beyer conjectures that because systematic ethnologic investigation in Mexico is so little advanced, we may confidently expect that in the future many similar discoveries will be made. The atlatl in question, called *otate*, is a simple stick of cane with a groove and a hook. Beyer heard from a resident of Jaltócan that before the lake had dried up in the vicinity of that settlement, a somewhat similar instrument was in use, with a cross-piece, probably a peg, like that seen in the miniature atlatls to be described. In this town it was called *aclaque* by the fishermen. The author believes that *otate* and *aclaque* are both corruptions of the term *atlatl*.

In a chapter devoted to the gifts sent to Cortés by Montezuma, Sahagun describes in detail the priestly ornaments pertaining to the god Quetzalcoatl, included in the lot, and gives this description of the two atlatls used in the worship of this deity: "A bishop's staff, all decorated with turquois mosaic-work, and the crook of it was like the head of a snake turned around or coiled." Also "a staff wrought in turquois mosaic, and its crook was set with rich stones or conspicuous pearls."[63] Another early writer states that this ceremonial atlatl of Quetzalcoatl was an instrument of wood in the form



a



b

PLAIN TEPONAZTLI

a. MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION, NEW YORK
b. BRITISH MUSEUM, LONDON

of a sickle, painted black, white, and red, and was held in the right hand, and close to the hilt was "a tassel of black and white chamois-skin."[64]

All the Mexican atlatls now to be described, twelve in number, being elaborately carved, unquestionably were not intended for hunting or for use in actual warfare, but were for ceremonial purposes. From the list of barter obtained by Juan de Grijalva in 1517, when he made the first coasting of the Gulf of Mexico as far as the present city of Vera Cruz, it is found that he sent to Velásquez, the Governor of Cuba, among many other things, "some *tijeras* of gilded wood." In the publication of this list in *Goldsmith's Art in Ancient Mexico* we conjectured that the word *tijeras* was possibly a mistake for *tiraderas*, meaning throwing-sticks, and that the objects mentioned were spear-throwers or atlatls. We overlooked the possibility that the word *tijera*, or scissors, may have been employed to describe the spear-thrower, the two finger-loops reminding the Spaniards of a pair of shears. In all events there seems to have been no doubt that the Spaniards saw the first atlatl among the specimens obtained by Grijalva.

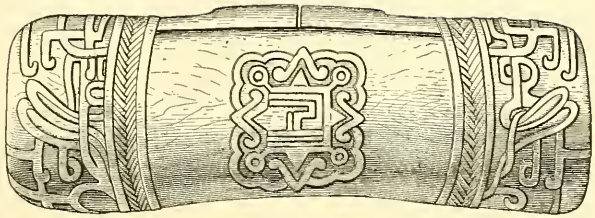
Two atlatls were sent to the King in the first shipment of loot gathered on the Mexican coast by Cortés, as recorded in the inventory under date of July 6, 1519. These two entries are: "Item: four harpoons of feather-work with their points of flint fastened with a gold thread, and a *scepter* of stone mosaic-work with two rings of gold, and the rest of feather-work." This scepter was an atlatl, and its two rings of gold were the finger-loops. The second entry is: "A *scepter* of red stone mosaic-work, made like a snake, with its head, teeth, and eyes made from what appears to be mother-of-pearl, and the hilt is adorned with the skin of a spotted animal, and below the said hilt hang six small pieces of feather-work." In this is described the *xiuhcoatl*, the turquois-mosaic serpent atlatl held by the priest in the habiliments of the war god Huitzilopochtli, so often seen in the codices. In fig. 19, *d*,

from the Codice Matritense of the Royal Palace of Madrid, painted to illustrate the *History of the Things of New Spain*, by Sahagun,[65] we find a vivid representation of the serpent atlatl held in the right hand of a priest dressed in the guise of Huitzilopochtli. During the fifteenth month of the Mexican calendar, called *Panquetzaliztli*, the festivals that took place were in honor of this deity. The songs were those dedicated to him, and a strophe of one of the hymns chanted acclaimed the god as the dart-hurler, explained by Brinton as referring to the belief that the deity was the hurler of the lightning serpent, *xiuhcoatl*, or turquois-colored serpent.[66] This explains the azure staff cut in the manner of a waving snake—the turquois-mosaic covered atlatl carved from wood which the wooden idol of the god carried in its right hand.

In a second shipment sent to Spain by Cortés to be distributed to various churches, monasteries, and special persons, we find noted as having been consigned to the Lord Bishop of Burgos, "something like a staff, crosier, of stone mosaic-work of many colors."[67] None of the so-called scepters or staffs covered with mosaic-work are known to exist, but it is barely possible that those of gilded wood sent earlier by Grijalva may be the four gilded atlatls now in London, Rome, and Florence, which we shall describe later.

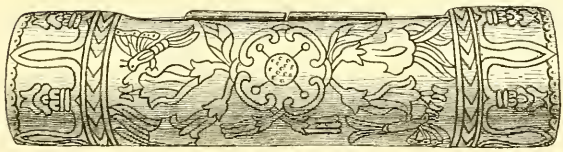
The ceremonial atlatl was not, however, used exclusively in connection with the worship of either Huitzilopochtli or Quetzalcoatl, as has been amply demonstrated by Mrs. Nuttall.[68] In the codices it is found to appear also in association with the deities Xiuhtecuhtli and Tezcatlipoca. The evidence is sufficient to establish the fact that the twelve examples we are to consider were all used ceremonially, and that their elaborate and delicate carving proves conclusively that they were never used in actual combat.

In pl. I are shown, for the first time, photographs of the front and rear of two of the most beautiful atlatls that have been found, and the last of their class to be discovered. Detail drawings of their carving are presented in pls. VII and



a

b



c

CARVED TEPONAZTLIS

a. WHEREABOUTS UNKNOWN; *b*. TROCADERO MUSEUM, PARIS;
c. STATE MUSEUM OF NATURAL HISTORY, VIENNA

VIII. Through the interest and generosity of Mr. Ford these two examples are in the Museum of the American Indian, Heye Foundation, having come with the collection of mosaic masks and shields from the Mixteca region of Puebla. Both of the atlatls are of hard, highly polished wood of a mottled brownish color resembling rosewood, the fine grain being quite distinct. Specimen *a*, *b*, is slightly lighter in color than *c*, *d*. Neither specimen shows a trace of gilt. The dimensions of the first atlatl are:

Length, 21⅜ inches.
Length of carving, 13½ inches.
Length of carving near groove, 13⁹⁄₁₆ inches.
Length of hook, 1¹⁵⁄₁₆ inches.
Length of groove, 19½ inches.
Width near hook, 1¼ inches.
Width at the other end, ¾ inch.

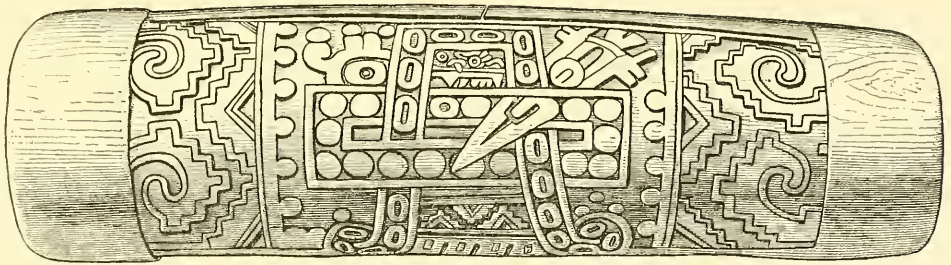
While not quite so elaborately carved as the three gilded atlatls in Italy, it is nevertheless more delicately wrought, the fine lines of its designs being of the technique of the two in Berlin. These may be seen best in the drawing in pl. VII. The upper part of the engraving, which represents more than two-thirds of the carved surface, displays four human figures, the upper one of which is descending or plunging downward, with the head turned around and thrown backward so as to face an erect figure below, the head of which is likewise thrown backward. In the right hand of each figure are grasped a shield with pendent feathers and three spears, and in the left hand of the lower figure is a long upright spear. Between the two beings is a spotted animal on its back, with head thrown backward, resting on a kind of three-sided frame that projects in front of the face of the standing figure which contains a feather-like device perhaps designed to represent speech. This figure wears an animal-head helmet, and pendent feathers partly cover the body. The standing figure below wears an elaborate animal helmet with upright feathers, and it holds a

serpentine staff or rod with a stone knife extending through its upper portion. At the left of the figure is a seemingly detached arm, the hand holding a staff terminating in the head of a serpent; extending through the staff is a stone knife. The fourth figure below is erect, his face turned toward the left, and his animal helmet thrown back, facing upward. As mentioned, this figure also has three spears and a shield in the right hand, and a single spear is shown at the rear of the figure to the right. This figure stands above the feather-crested symbol for the years, that is, the sign for binding together the last day of the old year and the first day of the new. The sign of the numeral 1 is seen at the lower part. Below is a composite design—two crooked arms with feathers. This last portion, seeming to be carved less skilfully, may be the work of another artist. A grotesque head, with circular eyes and conventional mouth, with an inverted atlatl, may indicate a Tlaloc or rain-god mask. Closer study of the designs on this atlatl will probably elucidate their meaning, but for the present we will be content to place before students the careful drawing of the various devices without attempting to interpret them.

On the other side of the atlatl the groove extends from the hook to the end of the rod. On each side of the hook is the head of a serpent with a double-twined, cord-like design, perhaps to simulate the body, extending to a point where the carving ends on the other side.

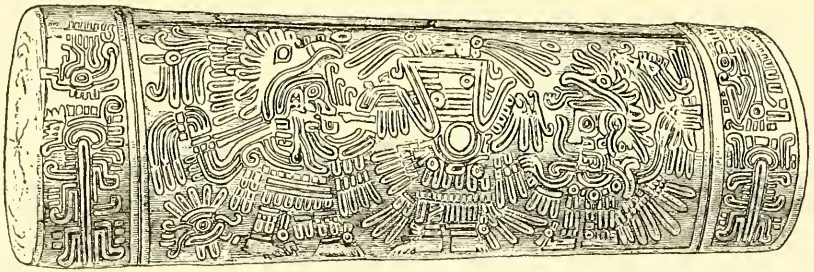
There is no evidence that this atlatl had been provided with finger-loops; but at the upper end, above the carving, is an aperture, perhaps for the attachment of feathers, just inside the narrow, uncarved, enframing band extending upward through the end of the stick.

The second atlatl in the Museum (pl. I, *c*, *d*, and pl. VIII) is carved in a style varying from that of the other. In the treatment of the figures and the decoration, the technique is less delicate and it closely resembles in composition and workmanship the specimen in the Dorenberg collection, shown in pl.



CARVED TEPONAZTLI

MARTELL COLLECTION



CARVED TEPONAZTLI

UNIVERSITY MUSEUM, BASLE

CARVED TEPONAZTLI

BRITISH MUSEUM, LONDON

important event or ceremony that occurred shortly before. Nor would we be justified in assigning the earlier date 1437, as the middle date 1489, twenty-nine years before Cortés entered Mexico, seems the more probable one, if, as I believe, the year 10 *calli* represents the time when the ancient wood-carver fashioned this atlatl. According to the Codex Telleriano Remensis,[69] in the year 1489 there passed through the skies a great comet called by the Mexicans *xihuitl*. In the Codex de 1576 it is stated that in this year there was a great earthquake, during which time night fell and the moon appeared. Such strange and dreadful phenomena occurred this year that they made a deep impression on the superstitious Aztec, and the days of these events may quite possibly be recorded in the two dates within the year which we find carved on the atlatl.

The other ten atlatls now to be considered, and of which illustrations appear in pls. IX to XVII, have already been described and illustrated, hence it will not be necessary to enter into details respecting them. Seler[70] informs us that late in the eighties Drs. Lenck and Felix of Germany, while on a geological excursion to the Mixteca mountains of Oaxaca, procured four atlatls which had long been preserved in fairly good condition by a native family in the neighborhood of the town of Tlaxiaco, the members of which had received them as heirlooms through generations. Two of these specimens were acquired by the Ethnographical Museum of Berlin, the third remained in the possession of Dr. Lenck, then a professor in Erlangen, while the fourth was sold by Dr. Felix to Consul Dorenberg, then in Puebla. A little later Mr. Dorenberg obtained from the same locality two other atlatls, which were not in such good condition as the other four. These last two examples obtained in the Mixteca later became the property of the National Museum of Mexico, while that purchased from Dr. Felix presumably was taken to Frankfurt when, on the retirement of Consul Dorenberg, he returned to Germany.

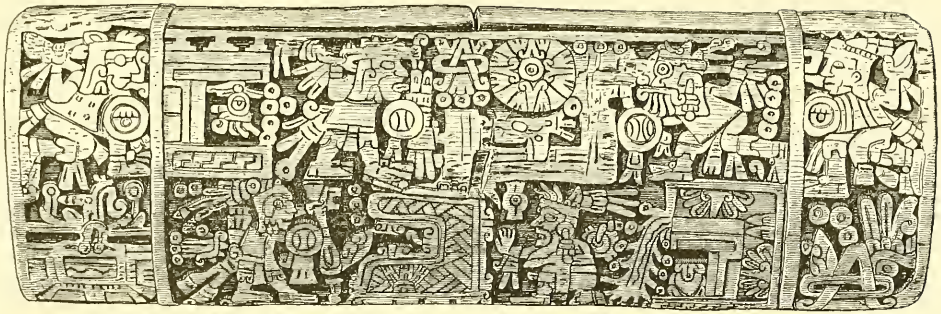
In pl. IX is presented a drawing of the Felix-Dorenberg specimen, attention to which has already been drawn in connection with the description of the second one in the Museum of the American Indian, Heye Foundation. Seler has attempted to identify some of the figures carved in its surface.

The next atlatls to be considered are the two in Berlin. In pl. X are photographs of both, while pl. XI presents a drawing of one of the pieces. These are so much alike that one appears to be a facsimile of the other, hence the atlatl illustrated in the drawing affords a good idea of the designs on both. This specimen is 24⅜ inches in length.

One of the two atlatls of the Dorenberg collection belonging to the National Museum of Mexico is shown in pl. XII. The carved end is disintegrated, but the style of decoration somewhat resembles that of the Berlin specimens. It is the shortest example of the series, being only 17⅜ inches in length.

The beautiful specimen in the British Museum is illustrated in pl. XIII.[71] This is one of the four gilded atlatls, and has the unique distinction of having preserved a flat piece of cut shell fastened with cord near the propelling end of the shaft to serve as a finger-clutch. The missing ring on the other side has been restored. This atlatl should be compared with the specimen from the Southwest and with the fragment from Coahuila illustrated in pl. VI. Undoubtedly all of the examples in the series, with the exception of the serpent atlatls to be described later, were once provided with similar finger-clutches, as each has an uncarved section like that of the London specimen.

The next gilded atlatl is in the Prehistoric and Ethnographic Museum in Rome, and has been reproduced and described by Bushnell,[72] whose illustration is copied in our pl. XIV, as the direct photograph made for us is too small to show the detail. This atlatl, which is 24¾ inches long, is made of a heavy dark wood resembling rosewood, identical with that of the New York specimens. The gold plating is



DETAIL OF THE CARVED TEPONAZTLI IN THE BRITISH MUSEUM

more or less rubbed or worn from the carved surface. Although the sectional views (*b* and *c*) are as clear as can be made, the covering of gold-leaf makes it difficult to distinguish the details of the intricately carved mythological scene depicted. The upper design is the symbol for the year, below which is an eagle's head, extending parallel with the length of the shaft and containing a human face in the open mouth. Next below is a seated human figure facing the left, and beneath is another facing the right. Still below is another seated human figure facing the left, followed by an animal figure, parallel with the length, with a human face in the open jaw. Next below and last in the design is a standing human figure facing the right, with a bird mask, the face of the figure appearing in the open jaws. On the grooved side it is found that the hook is carved in the form of a human head with a very elaborate headdress.

Two of the finest atlatls known came to light in Florence about twenty-five years ago and are now in the Museo Nazionale d'Antropologia ed Etnologia del R. Istituto di Studi Superiori in that city. These also have been described and illustrated by Bushnell,[73] from whose study we gather our information. They were contained in an old leather-covered case of considerable age. Both specimens were originally coated with a thin plating of yellow gold, the greater part of which still adheres, although on the higher and more exposed parts of the relief it has been rubbed or worn away. The reddish-black wood of which they are made is fine-grained and very heavy. The first specimen, shown in pl. XV, is about 23¾ inches long. Its decoration represents human figures and various symbols sharply carved in low relief. On the groove side a line of carving extends the length of the groove at each side, but not within the groove. The hook is not carved.

The second Florence specimen (pl. XVI) is slightly shorter, being 22⅝ inches in length. The complicated carving on the back, in which are introduced representations of human

figures, various animal designs, and symbols, is rendered in bold relief. A unique feature is the presence of two parallel grooves on the reverse side, forming three narrow uncarved transverse ridges. The carving is carried over the two hooks and down the entire length of the troughs of the two grooves. Each hook is carved to represent a human figure in low relief, while the conventional design in each groove is different from the other.

The last two atlatls to be described are in the form of serpents. In pl. XVII is the Lenck specimen, 22⅝ inches long. Our illustration is redrawn from Seler's sketch. The pattern shows a series of human figures placed on each side of a zigzag band extending from the back of the snake's head to the hook-end of the shaft.

The other serpent atlatl (pl. XVIII) is drawn from Peñafiel's photograph, published in Mexico in 1903.[74] This author's first illustration was published in 1890, when the atlatl was still the property of Dorenberg. In the later work it is said to belong to the National Museum of Mexico; but apparently it has long since disappeared from the Museum's collection, for in January of the present year we were able to find only the specimen figured in pl. XII, reproduced from a photograph made at that time.

We have now concluded our illustration and brief description of the twelve known atlatls. In the codices is depicted a type of atlatl not represented by those described. This form is characterized by an expansion of the shaft near the grip-end, in which two finger-holes are seen, a feature still surviving in the modern atlatls mentioned above as still used near Lake Patzcuaro in Michoacan. The same feature is invariably present in the spear-throwers from the northwest coast of America and throughout the Eskimo region.

Still another type of atlatl, known to have been used in Mexico, does not occur in the series described, although it is represented in the codices, namely, that with an inserted peg for the finger-clutch.

CARVED TEPONAZTLI

NATIONAL MUSEUM MEXICO

A few years ago, in digging for the foundation of a house in the former Calle de Escalerillas, now the Avenida de la República de Guatemala, in the City of Mexico, there were found the remains of a building which once formed a part of the great principal temple group of Tenochtitlan. The floor on which this temple had been erected is now seven meters below the present level of the city. In the excavation were found five miniature wooden representations of atlatls (pl. XIX).[75] Three of these models, probably symbolic offerings to the deity or deities in whose honor the temple was built, are provided at one end with hooks, against which the butt of the spear rested, while all five have a transverse hole at the other end, in two of which the grasping peg still remains. This type of spear-thrower had not hitherto been found in Mexico, but in recent excavations made by the Museum of the American Indian, Heye Foundation, in rockshelters in the Ozark mountains of Arkansas, Mr. M. R. Harrington found a complete atlatl, of normal size, together with fragments of several others, with an inserted peg, such as is shown in pl. VI, *d*. This type appears to be represented frequently in the codices, for in the Codex Boturini[76] the glyphic place-name for Atlacuihuayan (now corrupted into Tacubaya), in the

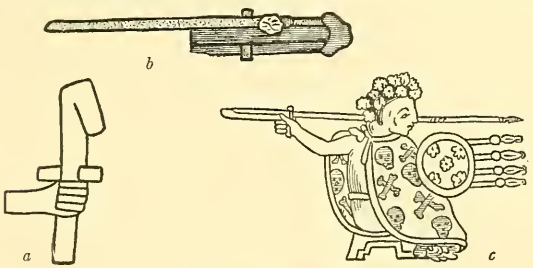


FIG. 14.—Atlatls or spear-throwers

representation of the migrations of the Aztec and of their arrival at a place of this name before reaching Chapultepec,

is expressed by an atlatl of this type (fig. 14, *a*). The other examples of this type (*b*, *c*) are from other codices.

To conclude with the atlatl we quote Mrs. Nuttall's final word concerning it: "The *atlatl*, although exquisitely carved, covered with gold, inlaid with turquois, decorated with feather-work and exhibiting the remarkable degree of skill attained by an industrious and intelligent race, seems, indeed, to be a fitting epitome of the strange civilization of Ancient Mexico, the real barbarism of which was mitigated by the most marvelous perfection in every detail of industrial art."

DRUMS

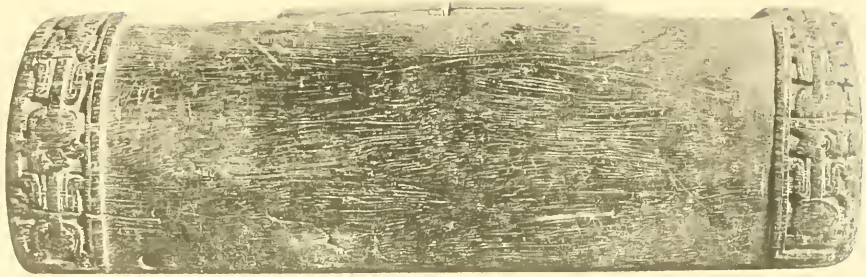
Early Accounts

Wooden drums played an important part in the civic and religious life of the ancient Mexicans, as we learn from the numerous references to them in early chronicles and from representations in picture writings which have come down to us. The specimens of drums that have escaped the ravages of time will be illustrated herein, so far as they are traceable, the greater number having been personally examined.

Drums were of two major types, namely, the horizontal drum called *teponaztli*, a hollowed-out log, the ends left solid, the bottom open, and the upper part cut through in a manner resembling the letter H, leaving two slender vibrating tongues, the ends opposite each other; and the upright drum, the *huehuetl*, also a hollowed log with open ends, over the upper one being stretched the skin of an animal. These Mexican or Nahuan names still survive in Mexico, both types of drums being now played on festival occasions by natives in various parts of the country. Before describing the existing specimens we shall quote from several early accounts drawn from historical sources.

The first description and illustration of a drum of the *teponaztli* type appears in the work of Oviedo, *Historia General y Natural de las Indias, Islas y Tierra-Firme del Mar*

a



b

CARVED TEPONAZTLI SIDE VIEWS

STATE ETHNOGRAPHICAL MUSEUM, BERLIN

a

b

CARVED TEPONAZTLI UPPER AND LOWER VIEWS

STATE ETHNOGRAPHICAL MUSEUM, BERLIN

Oceano, printed in Sevilla in 1535. In fig. 15 is a reproduction of the drawing in Oviedo, showing the upper and lower sides of the drum, taken directly from a photograph of the original manuscript in the handwriting of the author, now preserved in the library of the Royal Academy of History in Madrid. Here follows Oviedo's description of the instrument, which he saw in the Antilles:

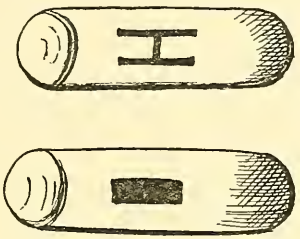


FIG. 15.—Teponaztli

"The form of their drum commonly used, of which mention has been made, is the one painted in this figure. It is the part of the trunk of a round tree, as large as they choose, and on all sides closed, except where they play it, hitting it with a stick on the top, like a kettledrum, at the part over those two tongues which remain, shown in the similar figure. The other figure like it shows where it is hollowed out when they work the wood or drum. And this last figure shows the part to be placed on the ground, and the other part first mentioned is the section to be played upon with the sticks. This drum must be placed on the ground, because when held in the air it gives no sound. In some parts or provinces these drums are very large, and others are of lesser size, as we have said. In some parts, also, they are covered with the skin of a deer or other animal, but in Tierra Firme they use the covered ones because, in this and other islands, as we have no animals for such purpose, they have drums such as we have described. Both kinds are in use in Tierra Firme at the present time, as we shall relate in the second part, where I shall touch upon the matter where the drums come in."[77]

Oviedo's description is inaccurate in so far as it relates to the necessity of placing the *teponaztli* on the ground, as we shall show later, for it is known that in Mexico small drums of this type were worn suspended from the neck. A matter of

prime importance is the fact that from this account we learn of the use of this type of drum in the West Indies, specifically in the Island of Española, now Haiti and Santo Domingo. Herrera gives the following rather indefinite account of the *teponaztli* used by the natives of that island: "They sing, accompanied by an instrument made of a hollow log of wood, about two-thirds of a yard long by one-third of a yard wide. The part where it was struck was in the form of the pliers of a horse-shoer, and the other part similar to a mace, so that it looked like a calabash with its long neck. This instrument sounded so loud that it might be heard for a little less than a league."[78]

One other account has been found referring to the use of this type of drum outside of the area of Mexico and Guatemala. The Italian traveler Girolamo Benzoni spent four or five years during the middle of the sixteenth century in Nicaragua and Guatemala.[79] In treating of the former country he describes the method of dancing among the natives, giving a sketch of a musician beating a drum of this type (fig. 16). The instrument is placed on a kind of low table resting on three legs. From the drawing of the upper surface of the drum it would appear that this is a variant of the ordinary *teponaztli*, for one tongue is shown near one end, while two tongues are placed opposite it. None of the drums from Mexico, nor their representations in the codices, show more than the two opposite tongues.

FIG. 16.—Playing a teponaztli

We shall now consider some of the other accounts of drums that relate especially to their use in ancient Mexico. Joseph de Acosta, in his *History of the Indies*, first printed in Sevilla in 1590, writes concerning the use of the two forms of drums in connection with dances: "But the most usual exercise of

CARVED TEPONAZTLI FRONT VIEW

NATIONAL MUSEUM, MEXICO

CARVED TEPONAZTLI REAR VIEW

NATIONAL MUSEUM MEXICO

recreation among the Mexicans is the solemn *mitote*, and that is a kind of dance they held so brave and honorable that the king himself danced, but not ordinarily, as the King Don Pedro of Aragon with the Barber of Valencia. This dance or *mitote* was commonly made in the courts of the temple, and in those of the king's houses, which were more spacious. They did place in the midst of the court two instruments, one like to a drum (*teponaztli*), and the other like a barrel (*huehuetl*), made of one piece and hollow within, which they set upon the form of a man, a beast, or upon a pillar. These two instruments were so well accorded together that they were a good harmony: and with these instruments they made many kinds of airs and songs. They did all sing and dance to the sound and measure of these instruments, and with so goodly an order and accord, both of their feet and voices, that it was a pleasant thing to behold. In these dances they made two circles or wheels; the one was in the middle near to the instruments, wherein the ancients and noblemen did sing and dance with a soft and slow motion; and the other was of the rest of the people round about them, but a good distance from the first, wherein they danced two and two more lightly, making divers kinds of passes, with certain leaps to the measure. All which together made a very great circle. They attired themselves for these dances with their most precious apparel and jewels, everyone according to his ability, holding it for a very honorable thing: for this cause they learned these dances from their infancy. And although the greatest part of them were done in honor of their idols, yet it was not so instituted, as hath been said, but only as a recreation and pastime for the people. Therefore it is not convenient to take them quite from the Indians, but they must take good heed they mingle not their superstitions amongst them. I have seen this *mitote* in the court of the church of Tepozotlan, a village seven leagues from Mexico."[80]

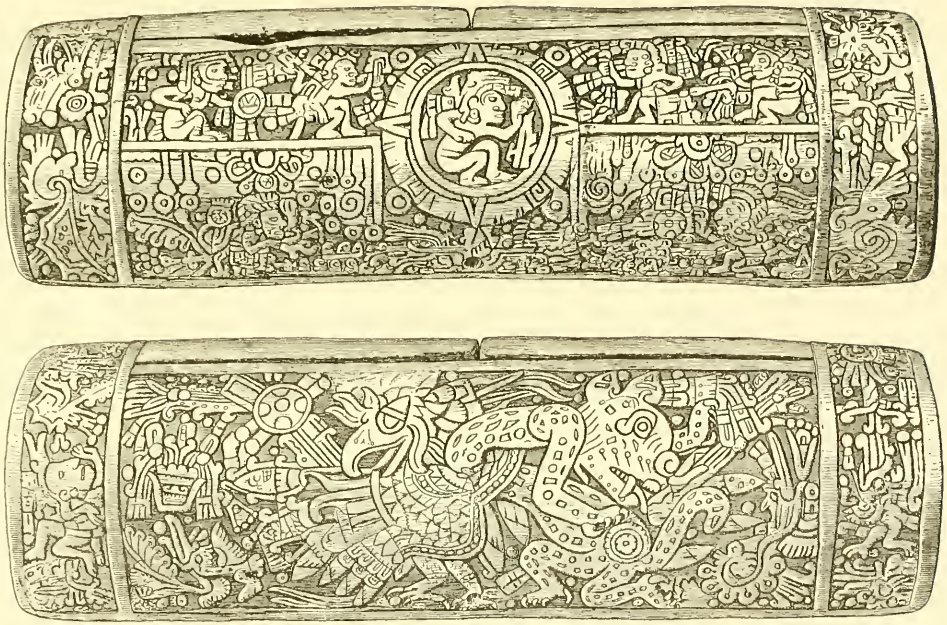
Vetancourt,[81] in describing the convent of Xochimilco in the Valley of Mexico during the latter half of the seventeenth

century, gives important data concerning the native wooden *teponaztli*. He states that the natives "have many kinds of dances, bazaars with gay dressings; they place in the middle of the plaza an instrument called *teponaztli*, and the most noble (among them) at the sound of that instrument go dancing around it in a circle. Some (are attired) with figures of eagles, others as lions, others as those who go with dancing steps,[82] each one with weapons painted in tallies[83] in the hands. At this time three or four elders are close to the instrument singing (songs) recounting historical passages relating to the conquest, others of the coming of the priests . . . Concerning this instrument, although all the Mexican republics use them in their festivals with the dance, those of Xochimilco use them the most, for there is not a single festival in which they are not beaten from midnight, because in a war which they had in ancient times with those of Tepoztlan, they won a *teponaztli* which could be heard for a great distance, and because of the achievement of this victory they are accustomed to play them regularly." Until recently two drums were preserved in Tepoztlan, which we shall describe and illustrate later.

Referring to the plot against the expedition of Cortés when he went to Cholula en route to Mexico, Bernal Díaz writes that it was revealed to Doña Marina by an old woman whose husband was a captain of troops in Cholula. He says: "As to the plot, she had known it for three days, for a gilded drum had been sent to her husband from Mexico, and rich cloaks and jewels of gold had been sent to three other captains to induce them to bring us bound to their Lord Montezuma."[84]

During battle small drums were beaten to encourage and animate the warriors. The war chiefs also carried each a small drum worn suspended from the neck, upon which signals and directions were beaten for battle.

Sahagun devotes a chapter to the vigils kept constantly in the palace of the "lord," as well as in various parts of the capital city (Tenochtitlan) itself, to protect the people from



DETAILS OF THE CARVED TEPONAZTLI IN THE NATIONAL MUSEUM OF MEXICO

the invasion of enemies. In the night vigils singing took place nearly all the time, accompanied by the blowing of trumpets, but the beating of drums played a most important part, continuing until the morning. In this connection Sahagun specifically mentions "the *teponaztli* and drums,"[85] drums here probably referring to the *huehuetl*.

On the retreat of Cortés from Tenochtitlan on the *noche triste*, Prescott writes that "the priests, keeping their night watch on the summit of the *teocallis*, instantly caught the tidings and sounded their shells, while the huge drum in the desolate temple of the war god sent forth those solemn tones which, heard only in season of calamity, vibrated through every corner of the capital."[86]

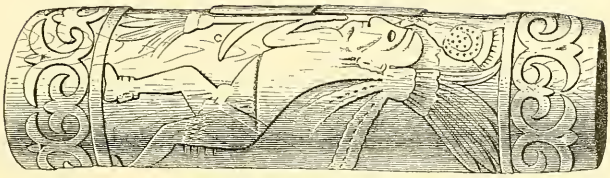
The *teponaztli* was in use also among the Maya of Yucatan, to whom it was known as *tunkul*. In Guatemala, among the Quiche and Cakchiquel, it was called *tun*. In the accounts of the discovery of the coast of the Yucatan peninsula and the voyage of Grijalva in 1517, mention is made of the all-night sounding of drums by the natives on guard to prevent the Spaniards from landing on the coast near the town at the Rio de los Lagartos. As these drums were heard on the ships anchored at some distance from land, owing to the shallow waters on an uncharted shore, it seems probable that the *huehuetl* would have been the only drum to have carried the sound to the vessels. We do not know the Mayan name for this type, but the term *pochob* is used in connection with the playing of drums during dances.

Concerning the ancient drums of Yucatan, Landa writes: "They had small drums which they played with the hand, and another drum of hollow wood [the *tunkul*] giving a deep and dismal sound; they played it with a rather long stick (having) at the end a certain milk of a tree [India rubber]."[87] It will be noted that Landa does not give the Mayan name for either of the two instruments. In later times, Ancona, in his *History of Yucatan*, states that "the dominant musical instrument was and yet is the *tunkul*, which in vain has been denom-

inated in Spanish by the words *tambor*, *atabal*, *cimbalo*, or *timbrel*. None of these denominations serve, because it is an instrument of purely American origin, which probably had no other resembling it in the Old World. It is a cylinder of hollow wood, ordinarily about three feet in length and one foot in diameter, completely open on the lower part and having in the upper part two longitudinal parallel openings, with another crossing it horizontally. It is played with two sticks like drum-sticks, and the sound being high-pitched and monotonous, may be heard for a distance of from six to eight miles."[88]

A recent traveler and investigator, Dr. Frederick Starr, in describing the festival dance called *Xtoles* which he witnessed in Merida, Yucatan, states that one of the musicians had a *huehuetl*, or drum, which he struck with the hands. He says that the *teponaztli*, or *tunkul*, has now largely gone out of use, but it is said still to figure at some village festivals.[89] The examples that have been seen in Yucatan are all of the plain variety. We have heard of a carved *tunkul*, now in private hands in Great Britain and probably dating from pre-Spanish times, from the region of southeastern Yucatan.

Father Thomas Gage, who lived in Mexico and Central America during the years 1625 to 1637, in describing a dance called *Toncontin* which he saw in Guatemala, describes the *teponaztli* played during the festival: "Their music and tune to this dance is only what is made with a hollow stock of a tree, being rounded, and well pared within and without, very smooth and shining, some four times thicker than our viols, with two or three long clefts on the upper side and some holes at the end which they call *tepanabaz*. On this stock (which is placed upon a stool or form in the middle of the Indians) the master of the dance beats with two sticks, covered with wool at the ends, and a pitched leather over the wool that it fall not away. With this instrument and blows upon it (which soundeth but dull and heavy, but somewhat loud) he giveth the dancers their several tunes, and changes, and signs of the



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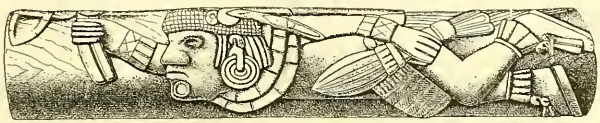
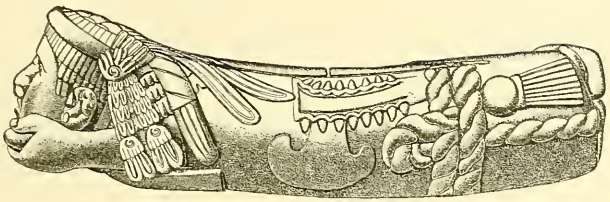


b

c

CARVED TEPONAZTLIS

a, *b*. TEPOZTLAN; *c*. TULA



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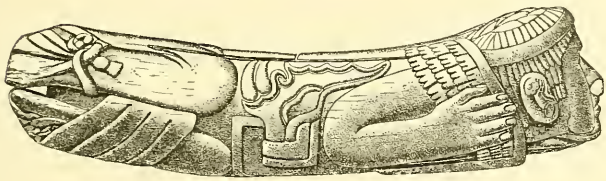

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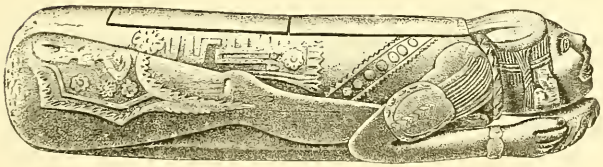


c

CARVED TEPONAZTLIS

a, *b*. TWO SIDES, NATIONAL MUSEUM OF MEXICO; *c*. BRITISH MUSEUM

motion of their bodies either straight or bowing, and giveth them warning what and when they are to sing. Thus they dance in compass and circle round about that instrument, one following another sometimes straight, sometimes turning about, sometimes turning half way, sometimes bending their bodies and with the feathers in their hands almost touching the ground, and singing the life of their saint, or of some other. All this dancing is but a kind of walking round, which they will continue two or three hours together in one place, and from thence go and perform the same at another house."[90]

Sahagun mentions another kind of drum, somewhat like the *teponaztli*, of which no example has come down to us; nor does its use seem to have survived the coming of the Spaniards, for we have found no other account of this instrument, nor any illustration of it in the codices. In describing the festival and sacrifices made during the eighth month of the native calendar, called *veytecuilhuitl*, Sahagun writes: "The women go playing a *teponaztli*, which has only one tongue above, and another below, and from the lower (tongue) hangs a *jicara* (gourd), such as those from which they were accustomed to drink water, and so (the instrument) sounds better than those which have two tongues in the upper part and none below. To this *teponaztli* is given the name *tecomopiloa*, and it is carried, when playing, below the arms because it is made in this manner."[91]

We have already alluded to the occurrence of pictures of the two types of drum in the native Mexican codices. In pl. xx we have assembled a few of the many representations of the *teponaztli* and *huehuetl* depicted in several of these ancient books. Figs. *a* and *b* are from the Florentine Codex of Sahagun, *a* showing the drum-sticks for the *teponaztli* covered with strips of rubber tightly wound diagonally around its ends, while *b* exhibits a kind of stand upon which the instrument was placed, the drum itself resting on a coil of rope, probably of twisted vegetal fiber. In *c*, taken from the same

source, the player stands before a drum placed on a different kind of frame. Both drums shown in these illustrations are of the uncarved type.

In the Manuscrit du Cacique, formerly known as the Codex Becker, now preserved in the State Museum of Natural History in Vienna, there is a representation of a native orchestra playing varied instruments. This Codex comes from the region of the Mixteca in the State of Oaxaca. In figs. *d* and *e* are shown two musicians playing respectively a *teponaztli* and a *huehuetl*. The first instrument is placed near the ground on a coil, conventionally represented, while the player is seated on the ground. The black rubber-tipped drum-sticks are graphically delineated. The player of the *huehuetl* stands on a low wooden pedestal and beats the drum with his hands. This type is different from that of the *huehuetl*, which we illustrate later—seemingly more like a kettledrum resting on a low wooden stool.

A *huehuetl* of somewhat similar shape is shown in fig. *f*, taken from the Codex Borbonicus, preserved in the National Library in Paris. The player, in the guise of a deity, is seated in a wooden chair, the drum being in space. He accompanies a song with the playing of the drum with his hands, the song being represented by the conventional sign for speech or song issuing from the open mouth, a device so commonly employed in Aztec pictography. The tiger-skin covering is graphically represented, and the open space at the base of the drum is present.

This is a low, short type of instrument, but is of the same shape as that shown in fig. *g*, from the Codex Mendoza. Here the musician is shown standing before a rather high drum, a *huehuetl*, which he beats with both hands while singing. It is covered with a tiger-skin stretched over the top. In the explanatory text of the codex is the legend, "Singer and musician who has been invited and gives the music." In front of the musician, not here reproduced, are the host and certain offerings for the entertainment of the guests. Three

CARVED TEPONAZTLI

BRITISH MUSEUM, LONDON

of the offerings may be recognized without difficulty, namely, a basket containing tamales placed in an earthenware tripod vessel, a bouquet of flowers, and a stick of *acayetl—acatl* being a cane or reed, and *yetl* a perfumed reed used for sweetening the mouth.

In our *Goldsmith's Art in Ancient Mexico* we have called attention to the excavations made in the City of Mexico in 1900, in the street back of the great cathedral. Deep below the foundations of the Aztec temple built in pre-Spanish times, thousands of objects were discovered, manifestly placed there as votive offerings when the pyramidal substructure was erected. The writer happened to be in Mexico during part of the time the work was carried on, and was present when a group of small reddish pottery objects representing musical instruments in miniature was uncovered. There were several specimens of each instrument, the whole collection comprising about a hundred objects. Several of the musical instruments were also represented in lava (*tezontli*). About a dozen modeled *teponaztlis* were made of clay and stone, the former resting on a twisted fiber ring, and with the two rubber-tipped sticks placed on the two tongues (fig. 17, *a*).

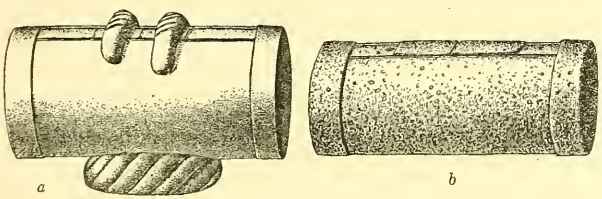


FIG. 17.—Miniature models of teponaztlis in clay and stone

The stone models were without drum-sticks (*b*). It is a curious circumstance that no model of a *huehuetl* was included in the group. In the National Museum of Mexico there is a beautifully carved full-size model of a *teponaztli* in lava (fig. 18). The mask, which forms the most prominent feature of the

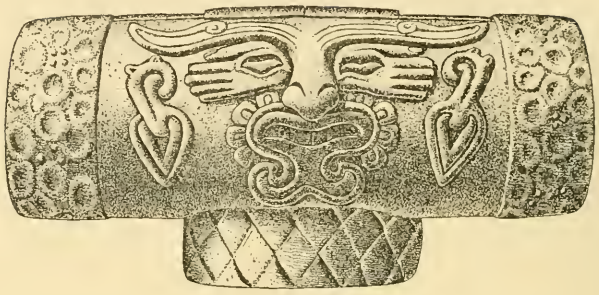


FIG. 18.—Stone teponaztli

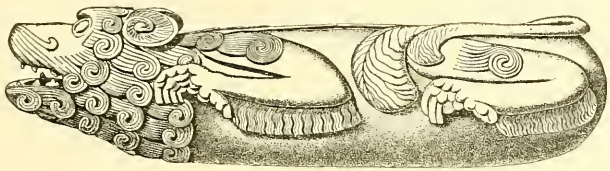
ornamentation, is thought to represent the face of the God of Dances and Flowers. It is composite in its elements, the eyes being represented within open hands, the mouth by a flower, and the nose and forehead are also apparently a flower derivative.

THE TEPONAZTLI OR HORIZONTAL DRUM

Undecorated *teponaztlis*, many of them undoubtedly made in fairly recent times, are not uncommon. Two specimens of this type are illustrated in pl. XXI. The upper example (*a*) is in the Museum of the American Indian, Heye Foundation, and was procured through exchange with the State Ethnographical Museum in Berlin. The tongues are unusually long, and the upper section perfectly flat. It is 29 inches in length, 6 inches high, and 6 inches wide.

The other plain drum (*b*) is in the British Museum. It is one of the smallest drums we have seen, being only 12 inches long. The upper part curves slightly upward, and it will be observed that it had once been broken at one end and repaired. The sole attempt at decoration is the insertion of a small circular piece of shell in the left tongue near where it extends from the solid wood at the end.

The *teponaztli* shown in pl. XXII, *a*, was first illustrated in 1834 by Dupaix,[32] who writes that he saw it in the town of



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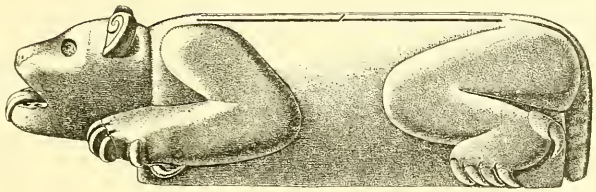

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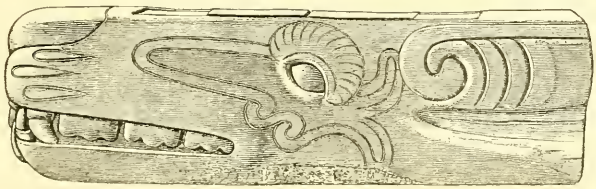
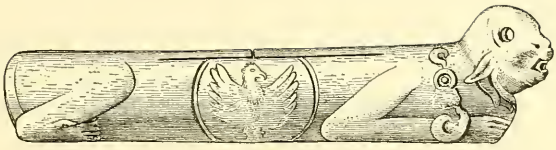


c

CARVED TEPONAZTLIS

a, c. NATIONAL MUSEUM OF MEXICO; *b.* AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK



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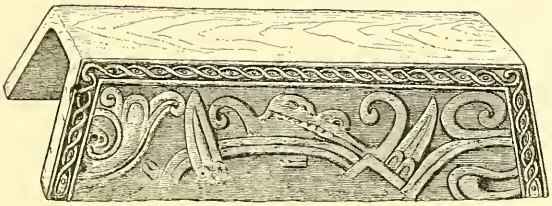

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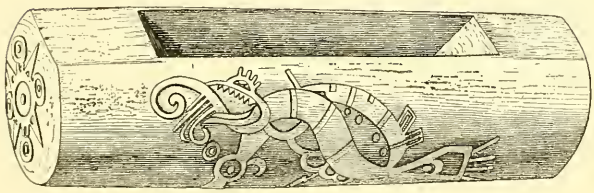


c

CARVED TEPONAZTLIS AND STAND

a, b. XICOTEPEC, DISTRICT OF HUAUCHINANGO; *c.* LOCALITY UNKNOWN

Axzotla in the State of Tlaxcala. This drum was seen by Brantz Mayer in 1841 in the National Museum of Mexico, which at that time was housed on the second floor of the University building. It seems to have disappeared long ago, and we could find no trace of it when in Mexico last February. In one place Dupaix states that the drum was made of heavy wood and measured half a yard and four fingers long. The proportions of the drawing in the work of Dupaix would indicate that its diameter was about five inches. In describing the specimens in the work of Dupaix, Lenoir states that the drum was of spruce-wood and that it measured 3 feet 9 inches long by about 16 inches in diameter, while its walls were about an inch in thickness.

Dupaix also writes: "Another ancient *teponaztli* pertains to the town of Tepoyango [probably Tepeyanco in the State of Tlaxcala]. It was well carved out of a block of solid, thick wood, with a variety of designs interwoven symmetrically, cut in bas-relief on its surface, and beautifully polished. It was about half a yard in length, and its circumference, which had a somewhat elliptical form, was about five inches at its greatest diameter." This description is not sufficient to identify it beyond question with any *teponaztli* known to the writer.

The next *teponaztli* (pl. XXII, *b*) is in the Trocadero Museum in Paris, and has been described and illustrated by Hamy.[93] Its length is 20⅞ inches. A grotesque mask is carved in low relief on one side, while a flower-like pattern adorns each paneled end.

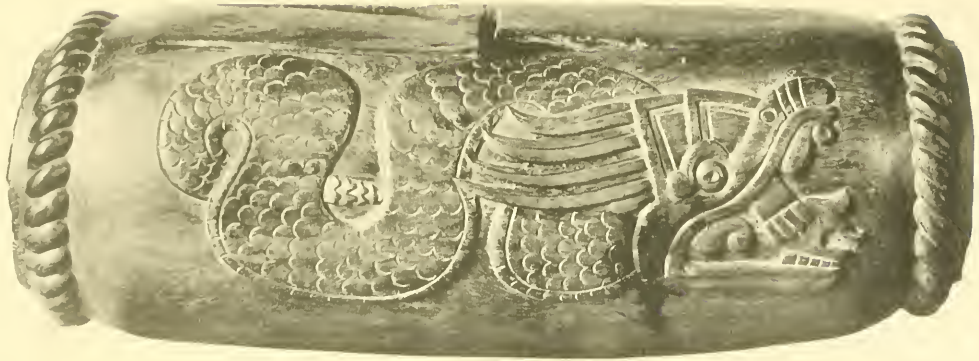
In the State Museum of Natural History in Vienna there is a small, finely carved *teponaztli* in the Becker collection (pl. XXII, *c*). This is the smallest *teponaztli* we have ever seen, being only 10½ inches long by a little less than three inches high. The central design of the carving, which is in low relief, is a conventional four-lobed flower, with other realistic flowers on each side. Above and below, at each end, a butterfly (*papalotl*) is poised near the stamens of a

flower. The central engraved panel has at each side a vertical band, separating a pattern, perhaps a floral convention. Like most of the *teponaztlis*, only one side of the drum is ornamented, but the end panels extend over the top and down the other side of the base.

The important drum from the Mixteca region (pl. XXIII), once owned by Aristides Martell of the City of Mexico, has been illustrated by Peñafiel.[94] The design is markedly Mixtecan in character, the style being identical with that of the paintings on polychrome pottery vessels from Nochistlan and other sites in the Mixtecan mountains of Oaxaca, as well as in the codices. The central feature of the carved side is a large sign representing the year, to which we have referred in describing the atlatl shown in pl. VII. Piercing this symbol at the upper right is a dart or arrow, the sign for the named year *acatl*. The number 1 is attached to it, being placed in the recess at the left. Enframed in the upper part of the year sign is the named day with the dot representing the numeral 1, being 1 *cipactli*, the first day of the Mexican calendar and of the *tonalamatl*, the year within the year. This important date, 1 *cipactli* 1 *acatl*, signifies the beginning of the Mexican "century" of fifty-two years, old style, for later the beginning of a new century was shifted to the date 2 *acatl*, perhaps two hundred years or less before the settlement of Tenochtitlan in 1325. The date marks the ceremony of the making of the new fire, which is shown in the codices, the last occurrence of which took place in 1507, eleven years before the advent of the Spaniards in Mexico. With the conquest of the country the old calendar became a thing of the past, so far as public celebration of the new era was concerned.

The stepped grecque designs at the ends of the central carving seem in this instance to be purely decorative.

A series of five elaborately carved *teponaztlis* appear in pls. XXIV to XXXII. Mythological scenes are depicted, and all except the last example (pls. XXX-XXXII) are sculptured on one side only, the exceptional one being carved on each side.



CARVED TEPONAZTLI (FRAUDULENT)

NATIONAL MUSEUM MEXICO

OPPOSITE SIDE OF THE CARVED TEPONAZTLI SHOWN ON PLATE XXXVIII, (FRAUDULENT)

NATIONAL MUSEUM, MEXICO

The drum in pl. XXIV is in the Kollman collection in the University Museum of Basle, and has been illustrated by Frobenius.[95] Two personages with eagle helmets face each other, and between them is a curious human-like figure with a singular object in place of the head. The frequency of feathers in decoration is a noteworthy feature of the carving. Decorated bands extend vertically at each end of the scene. In all the drums of this series the upper surfaces of the carving are somewhat worn, so that exact drawings are difficult, especially as in many instances the scenes are rather complicated.

The beautiful drum shown in pl. XXV and in the accompanying drawing (pl. XXVI) is in the British Museum.[96] It is 14⅛ inches long. This carving is like a page from a codex, as it depicts gods, houses, ceremonial objects, and dates. In the central scene are two human figures below, one standing with weapons in hands, facing a sacred place, in front of which is the date 3 *tecpatl*, represented by a flint knife and three dots. Over the head seems to be 3 *acatl*, while just below appears to be 4 *quiahuitl*. On the right side is a seated human figure facing the rear of the sacred spot, and in front of its head is the day sign *ollin*, but the numeral is indiscernible. The figure is seated in front of a temple, having two representations of sky symbols, the heavenly band, while from the roof a stream of water flows to the ground. A ceremonial object is seen in the temple. Above this edifice is Tlaloc, god of rain, with perhaps an atlatl in the left hand and a shield in the right. Behind him are four dots, the numeral 4, but with no adjacent glyph. In front, near the right middle section, at the upper edge, is the sun disc, *tonatiuh*, with the year sign with three dots below, adjoining the sun disc at the left. Facing these two symbols is a deity with an atlatl in the right hand and shield and feathers in the left. Behind this personage is a temple, in which is a day sign, probably *quiahuitl*, with the numeral 5 in front. In the vertical band at the left is a militant figure, below which is a

water bowl with some symbol rising from it. In the other end the band contains a figure with a stone knife in the left hand and a shield in the right. The sign for speech or song is seen in front of the face. Below, at the base, is the symbol for the year, with the named year 1 *tecpatl*, a flint knife. Another glyph, a day sign, with the numeral 3, also accompanies the year symbol. This glyph is difficult to determine, but it may be the day 3 *acatl*. The ensemble of this remarkable carving would well repay careful study.

A drum of this type, but of simpler character (pl. XXVII), is in the National Museum of Mexico. It is 15¾ inches long, 4½ inches high, and depicts three seated mythological figures. The central figure has the eagle helmet and is clothed in an elaborate costume; it faces the left, and in front is the familiar sign for the year. The scene is somewhat mutilated, seemingly maliciously. The carving is beautifully executed, and is not overburdened with designs as in the other drums of this type. The two vertical bands are well preserved, its two rosettes being prominent, and at the end of the right-hand band is seen a splendidly carved eagle's head.

Through the kindness of Dr. K. Th. Preuss, of the State Ethnographical Museum of Berlin, we are enabled to illustrate four views of the *teponaztli* in that museum. It is a small drum, 14¼ inches long, 4⅜ inches high and of the same width. The carving, on one side only, is much worn and the various figures are difficult to distinguish, but it seems to contain three lines of small human figures. Over the lower line is a house which occupies the height of the two upper lines of figures which face it. A decorative symbolic band extends around both sides and the top of the drum. In the four views of this *teponaztli* (pls. XXVIII, XXIX) the method of manufacture, the hollowing out of the log from the under-part to act as a resonator, and the two tongues left to be played upon, are graphically shown.

The most elaborately carved *teponaztli* known is in the National Museum of Mexico, the only example of its type in

DETAILS OF FRAUDULENT TEPONAZTLI

MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION

which the carving covers both sides (pls. XXX-XXXII). This beautiful drum, like the others, is somewhat worn, but the scenes depicted are mythological in character and of great interest. The front of the drum appears to be that shown in pl. XXXII, *a*, the central feature being a large solar disc (*tonatiuh*) with a seated person in the center. A dot is shown at each corner, suggesting that the symbol might represent a variant of the 4 *ollin* date of the calendar, its meaning referring to the four movements of the sun; but perhaps the figure is the deity Citlaltotonametl, ruler of the age of the great wind, as depicted in Codex Vaticanus 3773. On each side of the upper portion of the two zones into which the scene is divided are two warriors; while in the lower part are seen the signs of the heavens, and a human figure performing some act facing the center. The two side panels contain symbolism. The other side of the instrument (pl. XXXII, *b*) realistically portrays a combat between an eagle (*quauhtli*) and a tiger (*ocelotl*). Attached to the ends of the wing and body of the eagle are large flint knives. Above and to the left of the eagle is the sign for the warriors, a shield and arrows. Two objects appear in front of the eagle, in the lower one of which we recognize a flying bird and a flower, while above is the sacred water vessel. The body of the vanquished tiger is elongate and distorted, and attached to it are several knives. In the lateral bands at the left is a human figure with some emblem above; at the right are two other designs, difficult to recognize. The two mythological scenes here presented should be carefully studied and compared with the codices. This drum is 13½ inches long and 4 inches high.[97]

The five drums of this series are all practically the same size, being only from 13½ to 15¾ inches in length. From the character of the mythological scenes and the technique of the sculpture we may assume that these objects probably pertain to the same region in the highlands of central Mexico, but their exact provenience has not been ascertained.

Two finely carved old *teponaztlis* are illustrated in pl. XXXIII, *a*, *b*, drawn from a photograph taken by the writer many years ago. They belong to the town of Tepoztlan, a place famous for the temple explored in 1895 by Francisco Rodríguez, in whose company the author visited the town during the autumn of the year named. At that time the drums were preserved with sacred care in the local museum, then recently established, and were taken out and played, at which time the photographs were made. A picture showing the instruments resting on the knees of the musicians in the act of playing was published by the author in his paper on the Temple of Tepoztlan.[98] These two musicians were accustomed to play the drums at stated times when the yearly village festivals were held. During the late revolution, when that part of the State of Morelos was devastated by the troops of Zapata, Tepoztlan was sacked and most of the buildings were destroyed. It was then that the drums disappeared, but whether they were burned or have been safely hidden away by the natives, I was not able to learn when in Mexico early in the present year.

Drum *a* of pl. XXXIII is of about the same length as the one illustrated in *b*, but considerably larger in diameter. The carving, in low relief, represents a man holding aloft a rattle in the right hand, while a cane stock with feathers at the end is held hanging downward in the left hand. Conventional designs form a band at each end of the drum. A feather headdress rises at the back of the head of the man, whose only clothing is a loin-cloth.

The other *teponaztli* (*b*) represents a prostrate man, beautifully carved in high relief. In his right hand is carried an object which unfortunately cannot be seen in the photograph, as it extends over the top of the drum, and its details were not noted at the time it was photographed. In the left hand is carried a ceremonial wand, perhaps a rattle, with an incised flag-like object appearing to be attached to it, although this might as well be an apron-like loin-cloth. A labret pierces the

PLAIN HUEHUETL

NATIONAL MUSEUM, MEXICO

lower lip, and a large ear-ornament composed of concentric rings is pendent from the ear. This drum, a splendid example of the wood-carver's art of this part of Mexico, was better preserved than specimen *a*.

Another interesting drum, shown in *c* of the same plate, has been illustrated and described by Peñafiel in his *Monumentos del Arte Mexicano Antiguo*.[99] There is an exact model of this *teponaztli* in the American Museum of Natural History, which we procured in Mexico from Dr. Peñafiel. The original specimen, found in Tula, was the property of D. Perfecto Mendoza, but we do not know its present whereabouts. It measures 19⅝ inches long, and has an average diameter of 5¼ to 6½ inches. Peñafiel writes: "This *teponaztli*, made of savin wood, has a splendid relief, and it is also a notable work of art, laden with ornaments that seem to characterize the divinity of song and dances; but we do not notice there the inseparable accompaniment of all the gods, the *teonacochtli*, or ear-plugs; in the hands it has a kind of fan or fire-blower, similar to the object that the dancers on the Tizoc stone hold in their hands. In the right hand it carries a copper hatchet, ornamented with feathers; before the mouth the sign of song, of sounds and speech, complicated and full of accessories."

Only two *teponaztlis* carved in the shape of a human figure are known. These are illustrated in pl. XXXIV, the two sides of the example in Mexico being exhibited in *a* and *b*, while *c* is that of the drum in London, shown also in pl. XXXV. The specimen in Mexico has been illustrated many times, first by Dupaix, who described it with other drums in the account of his travels in this region, giving the locality in some instances; but in this case he mentions merely that it is a genuine example of Tlaxcalan antiquities. In the time of Dupaix (1806) the drum was probably in the City of Tlaxcala, but was later brought to the City of Mexico, for it was seen by Brantz Mayer in 1841 in the hall of the Museum of Antiquities of the University.[100] This drum is traditionally said to have been

taken by Cortés from the Indians of Tlaxcala; but this could hardly have been the case, as Cortés would certainly have sent it to Spain. We shall not describe it, but refer to the accurate drawings and call attention only to the weapon depicted on one side of the prostrate human figure (*a*). This may represent a composite battle-axe—a saw-sword with pointed teeth, into which a broad copper axe has been set. From the character of the carving it seems to represent a weapon fashioned from the saw of a sawfish, rather than the obsidian-edged *maquahuitl*, in which event the axe is simply placed with the poll-end beneath it. Troncoso and others have assumed that, from the position of the figure, a swimming posture was intended. This drum, a true work of art, is beautifully finished and polished, and the carving is in high relief. The extreme length is 23¾ inches.

The other human-figure drum (see pls. XXXIV, *c*; XXXV), attributed to the State of Oaxaca, is in the British Museum, and is one of the largest of the *teponaztlis*, being 27 inches long. It represents a prostrate human figure, well carved in low relief. The hands hold an object on which rests the chin. On the upper part of the right arm is carved the carapace of a turtle, from the upper end of which a bunch of feathers projects. The right leg is stretched along the side of the body, the foot being concealed under the upper part of the arm, the position being like that of an acrobat. A curious design is carved over the thigh and extending to the knee. This interesting sculpture does not seem to pertain to Nahuan culture, and if it is from Oaxaca it should be a Zapotec product.

We shall now consider three examples of animal-figure drums, illustrated in pl. XXXVI. Specimen *a*, which measures 34 inches and therefore is the longest of the ancient Mexican drums, is in the National Museum of Mexico. It is attributed by Troncoso to the town of Chalco in the vinicity of the City of Mexico.[101] The chief feature of its carving is an amphibian, perhaps a highly conventionalized crocodile, or mythical *cipactli*, represented in the act of swimming. It has shell

CARVED HUEHUETL

NATIONAL MUSEUM, MEXICO

ANOTHER VIEW OF THE CARVED HUEHUETL SHOWN ON PLATE XLII

NATIONAL MUSEUM, MEXICO

teeth and is painted red on the upper part of the inside of the mouth. In many respects this is the most beautiful specimen of Mexican carving of the drum class.

The next *teponaztli* (*b*), collected by Dorenberg, is from Cholula, and is now in the American Museum of Natural History. It is 25 inches long, and still shows traces of the red pigment which once covered the entire surface of the carving. In this drum is represented a puma, the lower jaw of whose open mouth has perforations in which teeth were formerly inserted. The animal is carved in a virile yet simple manner, and the drum has no additional embellishment.

The last drum of this class (*c*) is 25⅛ inches long, and shows the head of an animal, perhaps the crocodile, or *cipactli*, carved in low relief. It is in the National Museum of Mexico.

The two *teponaztlis* illustrated in *b* and *c* are now figured for the first time.

A *teponaztli* of unique form (pl. XXXVII, *a*, *b*) was seen in the town of Xicotepec, in the district of Huauchinango, State of Vera Cruz, by the Exploring Commission of the Secretario de Fomento during the reign of Maximilian, and was illustrated by a drawing in the *Memoria acerca de los Terrenos de Metlaltoyuca* (1866), prepared by Ramón Almaraz, but with no information further than that it was made of "ironwood." Its present whereabouts is unknown. The carving represents a prostrate figure resting on a stand somewhat like a seat, the front of which is adorned with a well-executed design resembling feathers. From the drawings it would seem that the right side of the head represents an animal face, while the left side is a human face.

Among photographs obtained in Mexico many years ago from the late Alfredo Chavero, I find the drum shown in pl. XXXVII, *c*. I do not know where the specimen is preserved, nor do I remember seeing it. The view was taken upside down, showing the hollowed-out portion at the top. We are doubtful of the genuineness of the object, but introduce it merely as a matter of record.[102]

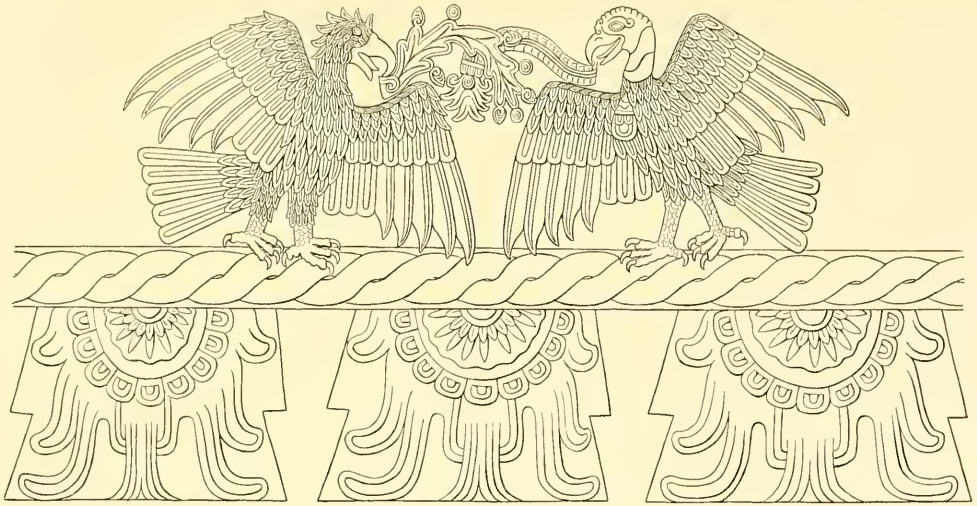
The two drums illustrated in pls. XXXVIII-XL are recent fabrications, the two sides of one of which are shown in pls. XXXVIII and XXXIX. The latter specimen, in the National Museum of Mexico, is 19¾ inches long and 6¾ inches in diameter. The peculiarity of this piece is that there is no opening at the base, a hollowed log with open ends being used. It has the two tongues at the top, however, the only feature characteristic of a typical genuine *teponaztli* that it possesses. The carved serpents do not have the technique of the examples which we have described and illustrated, and we have little hesitation in placing this drum in the class of pseudo-artifacts of ancient Mexico, illustrating it here only as a matter of record and of caution to collectors and museums.

In pl. XL are illustrations of the carving of an analogous example in the Museum of the American Indian, Heye Foundation, the only difference being in its closed ends and in the extension of the carving over the base. This drum was made by sawing off the ends of the log, then hollowing it into a cylinder with modern tools, and refitting and fastening the ends by means of dowels and glue, the work being so neatly done as to obscure completely the end joints. No attempt was made to efface the auger and saw marks on the inside. Both this imitation and the one before mentioned were obviously made with steel tools, and little effort was expended to give them the appearance of age, the edges of the carving being fresh and sharp.

We have heard of other imitations of ancient drums, and recently examined one in private hands in Tlalpam. This example is 20½ inches in length by 6½ inches in diameter, and is carved with human and animal figures.

The Huehuetl or Upright Drum

The *huehuetl*, or cylindrical upright wooden drum, is mentioned by nearly all the early writers and is represented in several codices. Drums of this character, without the distinctive features found in the Mexican examples, occur in various



DETAIL OF THE CARVED HUEHUETL

NATIONAL MUSEUM OF MEXICO

parts of the world and are still found among nearly all aboriginal tribes of the Americas. The *huehuetl* is made of a hollowed log, through the side of which, at the base, are cut triangular spaces in such manner as to form a kind of tripod for the support of the instrument and to give it greater resonance. The majority of these drums appear to have been about three feet in height, and were used by the player standing and beating upon the head with open palms. Other *huehuetls* were low, and the player was seated (see pl. XX). The head of the instrument was covered with a skin, usually represented in the codices as that of a tiger or jaguar. None of the *huehuetls* figured in the codices bear ornamentation of any kind, but we shall describe two magnificent carved examples preserved in Mexico. Uncarved drums of this type are still used in some of the villages of Mexico, where they are carefully preserved, being brought out only on festival occasions.

The *huehuetl* was the dreaded signal drum beaten by the Aztec to call the people together in time of danger. Bernal Díaz, in speaking of the great temple at Tlaltelolco, wrote: "They had an exceedingly large drum there, and when they beat it, the sound of it was so dismal, and like, so to say, an instrument of the infernal regions, that one could hear it a distance of two leagues, and they said that the skins it was covered with were those of great snakes."[103] The temple alluded to was dedicated to the war god Huitzilopochtli, and the use of this instrument seems largely to have been restricted to the cult of that deity and the warrior class. During the conquest of Mexico, as MacNutt says, "the Spaniards had sad cause to shudder at its fearsome roll which announced the sacrifice of their comrades."[104]

In the National Museum of Mexico is an example of an uncarved *huehuetl*, with the skin top missing (pl. XLI). It is 37 inches high by 13 to 13½ inches in diameter, and the cut-out portions at the base are 15 inches high. This drum presents no features of special interest.

Another drum of this type in the National Museum of Mexico is beautifully but less elaborately carved than the Toluca specimen to be described later. It was formerly in the Guillermo Heredia collection, but was acquired by the Museum some years ago through the purchase of that important collection. Two views of the carving are shown in pls. XLII and XLIII, and an extended drawing in pl. XLIV. This *huehuetl* is 34¼ inches high by 17 to 17½ inches in diameter, and the cuts forming the legs are 11½ inches high. The skin head is lacking. The carving on the upper portion does not cover the entire surface around the drum. On the left is an eagle, while the bird on the right apparently represents a turkey with its wattle hanging over the breast. Speech signs protrude from the mouth of each bird, one carried over the other. The band separating the upper from the lower portion is a two-fold interlaced one. The lower part, forming the feet or legs of the drum, has three designs of the same character, evidently cosmic symbols. Seler believes the scene to represent a dance of the warriors.

The best known *huehuetl* is in Toluca, and a cast of it is in the National Museum of Mexico. This remarkable specimen belonged originally to the town of Malinalco in the district of Tenancingo, State of Mexico, and is one of the most precious relics of wood-carving that has survived. It is elaborately carved in low relief, and measures 38¾ inches in height by 16 to 17¼ inches in diameter, while the openings at the base are 14¾ inches high.[105] The writer recently journeyed to Toluca in order to examine this drum, but although it was still in the town, it was hidden away, and repeated efforts to find it at the various places in which it was reported to be, failed entirely. The extended drawing of the design shown in pl. XLV is from photographs published by Peñafiel and those made by Frau Seler.[106] Starr states that the drum still has a skin or membrane stretched over the top.[107] The surface carving is in two areas, separated by a decorative band. The higher or upper portion, from the left, as the drawing indi-

DETAIL OF A HUEHUETL FROM TOLUCA

cates, shows the sign for the day *nahui ollin*, on the left of which is a dancing and singing jaguar (*ocelotl*), and on the right a dancing and singing eagle (*quauhtli*). The other figure to the right is a warrior covered with an eagle-skin, his lifted face protruding through the beak of the bird. The legs and feet of the warrior are represented on divided tail-feathers of the eagle. In the lower portion are two jaguars and an eagle respectively between the three apertures, represented in the same postures as the two above, and all five jaguars and eagles bear a banner over the right shoulder. It has been conjectured by Chavero that the scene represented by the carving of this drum is a religious festival of the warriors to the sun god.

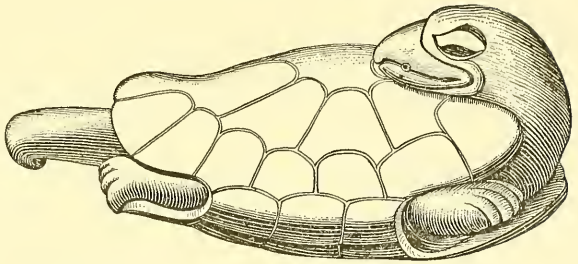
In the representation of the eleventh week of the *tonalamatl* of the Tonalamatl Aubin and of the Codex Borbonicus we find depicted the Mexican Bacchus, the pulque god called Patecatl. In both codices this deity is accompanied by an eagle and a jaguar, each bearing a banner. The interpretation of the significance of these two figures is that they are the distinctive marks of brave warriors. Inasmuch as pulque is supposed to make people strong, those born on these days would be brave warriors and would die in war. This is expressed in the Spanish legend written on the corresponding page of the Codex Borbonicus.

An interesting *huehuetl*, the whereabouts of which is now unknown, was seen nearly a century ago by Dupaix in the little village of Nuestra Señora de la Navidad, called Axzotla in the Mexican language, in the State of Tlaxcala. The description by Dupaix is as follows: "There exists in this town a war instrument called *huehuetl*, meaning an old thing in their language. Its shape is that of a hollow cylinder of wood, of the species of savin wood [juniper]. It has a height of a yard and a quarter, and in diameter a little less than half a yard. The wood has a thickness of an inch and a half. The lower part is decayed. All the upper part of the exterior is divided into various symbolic drawings in different colors,

analogous to the insignia of the said city. The upper part terminates in a skin stretched over the top like those of our drums. The lower part is divided into three pieces serving as three feet."[108]

Another large *huehuetl* was seen in more recent times by Starr in possession of the Indians of the village of Los Reyes in the State of Tlaxcala. He writes of his observation as follows: "This musical instrument is a reminder of the olden times; it is not found everywhere, but a number of Indian towns possess one, which is kept to be played on festal occasions. The one at Los Reyes was some three feet or so in height, a hollow cylinder of wood with a membrane stretched across the upper end; it was painted blue. The player used two sticks with padded heads, beating with great force in excellent time. The booming of the instrument was audible to a great distance."[109] Starr recounts that in an Aztec town in the State of Vera Cruz he saw a short *huehuetl*, the top of which was covered with a peccary-skin.

Auguste Genin, in his "Notes on the Dances, Music and Songs of the Ancient and Modern Mexicans," in describing the musical instruments, disagrees with general opinion that the *huehuetl* was beaten only with the hands. He states that it was beaten "with a wooden stick bearing at the end a ball of wood, of rubber, or of clay in a leather sheath. He gives an analysis of the meaning of the name *huehuetl*, or *tlapahuehuetl*, in the following words: "The etymology of *tlapahuehuetl* is not easy to determine, at least opinions are very different. To begin with, *huehuetl* means incontestably 'tree hollowed by time,' or, by analogy, 'piece of wood hollowed out.' This caused no difficulty, and, in fact, the instrument is a piece of wood hollowed out. But what does *tlapa* signify? In all the geographical names in which this radical is found, the hieroglyphic shows a lavatory, a place where one washes, a cloth, a hand playing in the water. (See the remarkable *Nomenclatura de Nombres Geograficos de Mexico*, by Dr. Antonio Peñafiel, Mexico, 1895.) But this translation applied to



TORTOISE FIGURE

BRITISH MUSEUM

a drum to me has no meaning. On the other hand, in Mexico they designate by the name *tlapalerias* all places where they sell paints and varnishes; evidently this name is derived from the Aztec *tlapalli*, color; *tlapani*, to dye. It can then be admitted that the *tlapahuehuetl*, differing from other drums of this kind, was painted, adorned in colors, which would be easily explained, since indeed it was a drum reserved for warriors, and there would be nothing extraordinary in their carrying certain colors, or rather signs, certain hieroglyphics belonging to one certain tribe or army corps. Besides, there have been found *tlapahuehuetl* which still show fragments of red and black lacquered paintings. But I go further: I believe that *tlapahuehuetl* means not only 'drum with colors' or 'painted drum,' but, by extension, 'signal drum'; and if it is admitted that this drum was carried particularly by the aide-de-camp, who, by beating it in a certain way, transmitted the orders of the leaders, my explanation will seem admissible. *Tlapahuehuetl* means, then, signal drum, order drum, or drum of command, as you wish. Several authors write, not *tlapahuehuetl*, but *tlapanhuehuetl*. *Tlapan* in Aztec means place where they dye, dye-works; *tlapani*, to dye. *Tlapanhuehuetl*, then, still signifies 'dyed or painted drum.' "[110]

ANIMAL FIGURES

Apart from the animal-figure *teponaztlis*, we have found but a single example of an animal figure of wood that has survived, although representations of various animals in stone and clay are exceedingly numerous. In pl. XLVI is figured a small, beautifully carved tortoise of hard, dark-brown wood, now preserved in the British Museum. We recall the turtle carved on the arm of the human-figure drum in the same Museum, and also have seen models of the same animal realistically sculptured in clay and stone. The history of this specimen in the British Museum is unknown, but we may safely assign it to Mexico on stylistic grounds.

IDOLS

CERTAIN of the principal deities of the Mexicans were represented by wooden idols, of which there are many descriptions in the early chronicles. But of the many hundreds, even thousands, of such images possessed by the Indians at the time of the Spanish advent, we are now able to illustrate only seven minor examples. In our former work we accounted for the early disappearance of idols in Mexico as due primarily to the zeal of the Spaniards, especially the missionaries, in eradicating from the Indian mind all that pertained to the native religion. In that work is presented a translation of a chapter from the account by Father Motolinia treating "Of how there was an end of idols and of the feasts which the Indians were wont to prepare, and of the vanity and the endeavor which the Spaniards displayed in their search for idols."[111] The reader is referred to this narration, wherein we learn of the wholesale search for idols in order to destroy them, the Spaniards even resorting to torture in carrying out their purpose. All wooden idols that were found were burned, hence there is very little likelihood that many such will be discovered in preservable condition as a result of future archeological research.

An idol carved in wood was called in the Nahuan or Mexican language *quauhximalli*, a word meaning also chips or shavings. The generic words for any kind of idol were *tequacuilli* and *teteotl*, *tequacuilli* being a statue, a bulky image or idol, *teteotl* meaning pertaining to the gods.

A few quotations from early writers who described wooden idols will suffice. The image of Quetzalcoatl, the great beneficent deity, is described in the *tratado* of the Codex Ramírez as follows: "This idol was of wood in the figure of a man, except that the face was that of a bird with a beak, and above it a crest and warts, with some lines (*rengleras*) of teeth of the tongue outside; from the beak to the middle of the face it was yellow with a black band that came circling from close to the

IDOL FROM THE VALLEY OF MEXICO

NATIONAL MUSEUM, MEXICO

eyes to below the beak."[112] This well describes the god as depicted in the codices in the guise of Ehecatl, the wind god, one of his attributes.

In the "Treatise of the Rites and Ceremonies which the Indians of New Spain Exercised during the Time of their Paganism," in the Codice Ramírez, is this description of the deity Huitzilopochtli: "The figure of this great idol Huitzilopochtli was a statue sculptured in the likeness of a man, seated on a blue bench with a back built like a litter, from each corner of which came out a piece of wood with the head of a serpent at the end. This seat was blue, signifying that (the god) was seated in the heavens. This idol had the forehead all of blue color, and over the nose was a blue band, extending from one ear to the other. On the head it had a rich piece of plumage or feather-work, made like the beak of a small bird [the hummingbird, according to Duran]. The beak where the feather-work was fixed was of highly burnished gold, and the green feathers of turkeys (?) were very beautiful and in great quantity . . . The god had in the left hand a shield with five pineapples of white feathers so placed as to form a cross, and round about the shield were suspended yellow feathers like ratlins. Rising from the shield was a pennant of gold, and in the place where the handle is, come out four which the Mexicans say were the insignia sent from heaven, with which they had made the memorable victories which will be spoken of. This idol had in the right hand a staff made like a blue undulating serpent . . . All these ornaments had their special meaning, the effigy (of the god) is that which follows." This figure is illustrated in pl. 18 accompanying the Spanish text of the Codice Ramírez, and bears the legend, "Famous idol Huitzilopochtli, who was worshiped by the Mexicans and by those of Tetzcuco and other nations, and was called Lord of all created beings."[113] We reproduce it in fig. 19, *a*, with an analogous drawing accompanying Duran's *Historia de las Indias de Nueva España y Islas de Tierra-Firme* in fig. 19, *b*.

FIG. 19.—Idols of the god Huitzilopochtli

Cortés states that, in the great temple of Tenochtitlan, devoted to the worship of Huitzilopochtli, "there are three halls, wherein stand the principal idols of marvelous grandeur in size, and much decorated with carved figures, of both stone and wood."[114]

In the Codex Magliabecchiano (Loubat edition, p. 43) is another representation of this god (fig. 19, *c*). All the features

a

b

IDOLS FROM THE STATE OF OAXACA

a, GILLOW COLLECTION, OAXACA
b, NATIONAL MUSEUM, MEXICO

described in the preceding quotation are depicted in this painting, with the exception of the seat, probably hidden behind the clothing. On the page opposite is this text: "This festival was called by the Indians *pan quezalizti*, which was the greatest festival of their year, in which they venerated the demon which they called *Viçilopoxtli*, who was among their gods a comrade of *tezcatepocatl*. They called this festival *ypanquezaliztli*; in it they placed on the head of *uiçilopochtli* a wide object that they called *pauitl*, of a blue color, called by the Indians *texutli*, and they decked it with painted paper, and in the hand (they placed) a shield of leather, and in this festival there were a very great number of people who were sacrificed in Mexico, of those who were taken prisoners in Tlaxcala and Quaxoçingo."

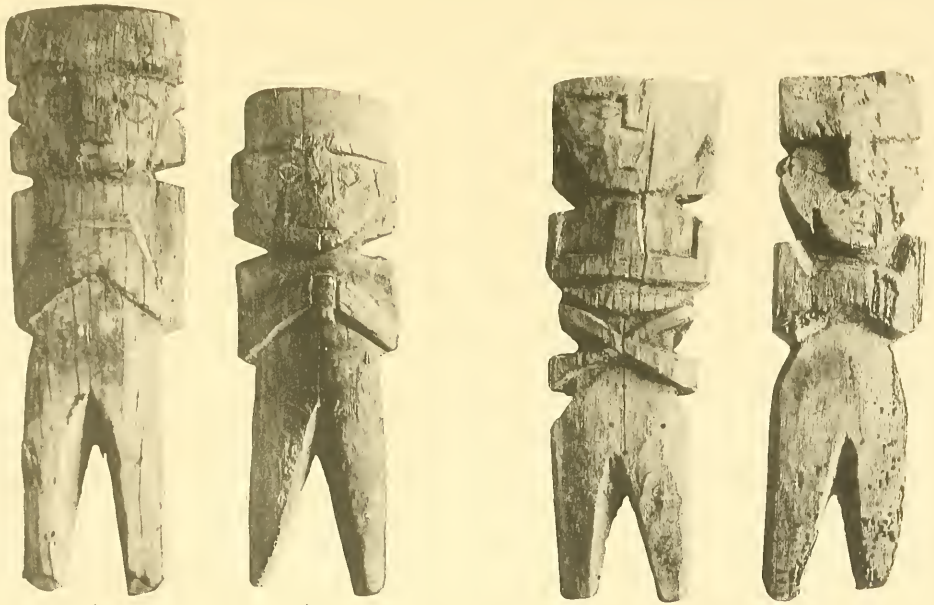
According to Pomar the supreme god worshiped in Texcoco was Tezcatlipuca, "the smoking mirror," whose idol was made of wood in the figure of a man, very elaborately carved and decorated. Pomar gives a long description of the vestments of this idol.

An idol comparable with the best statues in stone from Mexico is shown in pl. XLVII. It is 15½ inches in height, and represents a standing female deity, wearing a skirt, the hands placed below the breasts. The statue is of compact reddish-brown wood, perhaps cedar, beautifully carved and highly polished. We were informed by Dr. Nicolas León that this image, together with another which has disappeared, was discovered a number of years ago in a mound at Coatepec Harinas, State of Mexico. It is now in the National Museum of Mexico. Although there are thousands of stone idols in that Museum, this specimen and the one next to be described are the only ones carved of wood to be found in that institution, a fact which bespeaks the excessive rarity of wooden objects that have survived from ancient times.

Wood-carvings from the State of Oaxaca are very rare; indeed we know of no carved drums from that part of Mexico, if we exclude the Mixtecan culture area of the Mixteca moun-

tain region adjacent to the State of Puebla. The character of the carvings on a number of drums seems to point to the Mixteca country as their place of origin, as in the case of a number of the carved atlatls which are known to have come from that area. We are able to trace only two specimens of wood-carving from the State of Oaxaca proper. In pl. XLVIII, *b*, is illustrated for the first time a wooden idol that was formerly in the Sologuren collection, but is now in the National Museum of Mexico. This idol, from the ruins of Etla in the Valley of Oaxaca, is 10¾ inches in height and represents a seated human figure typical of pottery idols from the Zapotecan culture area. The legs are crossed in front of the body and the hands rest on the knees. The nose is missing. A small human face is carved in the open mouth, and under the chin a sparse beard is indicated. The forehead is covered with a high turban which has a narrow transverse cut, perhaps formerly inlaid with some decorative material. A cape with hanging straps covers the upper torso, and prominent ear-ornaments of the disc type hang before the ears. A high recessed curved projection rises from the shoulders to above the back of the head, containing a series of shallow circular holes, undoubtedly intended for inlays of stone or shell. The idol is unquestionably ancient, and has been somewhat worm-eaten, as shown in the photograph. Although thousands of somewhat similar pottery idols have been found in the Zapotecan area of Oaxaca, this is the only one made of wood that has thus far been discovered in that territory.

The veneration of ancient idols in Oaxaca has persisted among the Mixe Indians until a very recent period. Archbishop Gillow, formerly of Oaxaca, in his *Apuntes Historicos*, published in 1889, gives an account of the worship of a wooden idol in the town of Mixistlan in the Villa Alta. It was placed in the village church before the high altar at the right of the crucifix; candles were lighted before it, and other offerings made to it; great reverence was paid to the image, but the



a *b* *c* *d*

IDOLS FROM THE STATE OF GUERRERO

PREHISTORIC AND ETHNOGRAPHIC MUSEUM, ROME

parish priest who caused its removal despite the persistent protests of the inhabitants, was unable to obtain any definite information regarding it. He was told later by the Indians that, owing to its having been taken away from the church and town, "heaven had denied them rain and that disease was decimating them because they had permitted its removal." The writer saw it later in possession of the Archbishop of Oaxaca, and Starr published a description and a photograph of it in his paper on "Survivals of Paganism in Mexico." As will be observed in pl. XLVIII, *a*, from Starr's photograph, the idol is carved from a log; it is cylindrical, hollow, and is provided with a cover. On the front of the idol is carved in relief a person in a squatting posture. A small engraved block represents an apron or a loin-cloth. The right hand holds a stone knife, and a disc-like object covers the left wrist. The carving of the facial features is typical of that found on Oaxaca stone masks. From the character of this idol there seems to be no doubt that it has descended from the period antedating the conquest, and it is evident also that it has been religiously preserved as a sacred object by the natives of the mountain district of Villa Alta during the last four centuries.

In the Prehistoric and Ethnographic Museum in Rome we examined the four wooden idols illustrated in pl. XLIX. The first (*a*) is 9 inches high, the other three measure 8¾ inches. They are of a crude, primitive, archaic type, and are ascribed to the State of Guerrero. The figures shown in *b* and *c* seem to be represented as holding a cup between the hands. In the case of *c* the idol appears to be wearing a kind of belt or sash. The exceedingly conventional character of the carving is especially observable in the treatment of the short, pointed legs. Feet are absent. From the archaic character of the carving we might ascribe considerable age to these idols, but the absence of knowledge of the circumstances under which they were found renders any such conjecture hazardous. Although the State of Guerrero is a focal point for the

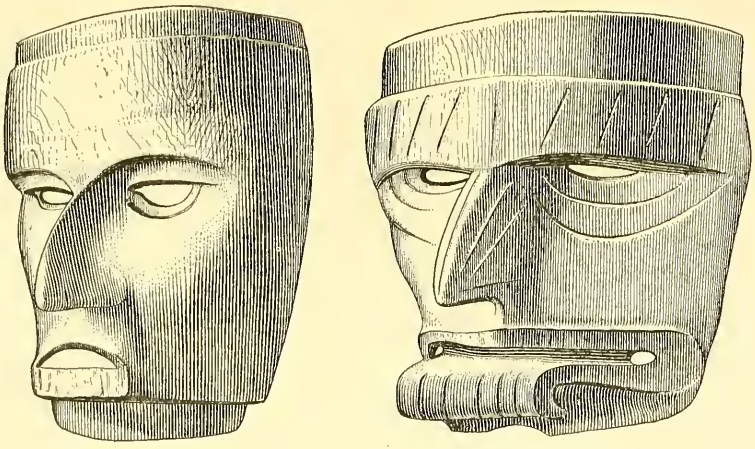
investigation of Nahuan beginnings, it has remained perhaps the least explored of any of the important archeological fields of Mexico.

MASKS

Masks of stone and of wood were widely used in ancient Mexico. Stone masks have been found in considerable numbers, especially in the Valley of Mexico; but masks of wood are very rare. In my former work are described and illustrated twelve wooden masks incrusted with turquois mosaic, and another which has lost its incrustation. Attention was drawn also to two plain wooden masks described and figured by Colini, supposed to be in the Museo Borgiano alla Propaganda in Rome. In pl. L these two masks are reproduced from Colini's illustration. The first specimen (*a*) is 6⅞ inches high. The lower lip is broken, and the orbits probably once contained eyes of shell. The nose is aquiline. The second mask (*b*), 7⅛ inches in height, has a band with vertical lines over the forehead. The aquiline nose bears incisions, and there extends from the mouth a large, pendent, tongue-like object, also with vertical lines. It is probable that both masks were once embellished, at least in part, with mosaic. Colini also calls attention to an idol in the same museum, 17¾ inches in height, representing a human figure, but unfortunately he does not illustrate it.[115]

TURQUOIS MOSAIC OBJECTS

As forty-two of the forty-five known Mexican specimens ornamented with turquois mosaic are of wood, they of course come within the purview of this memoir, but as they have already been treated in *Turquois Mosaic Art in Ancient Mexico*, published in this series, to which the present work is complementary, it will not be necessary to give further description of them.



a *b*

MASKS

BORGIANO MUSEUM OF THE PROPAGANDA FIDE, ROME

MIRRORS

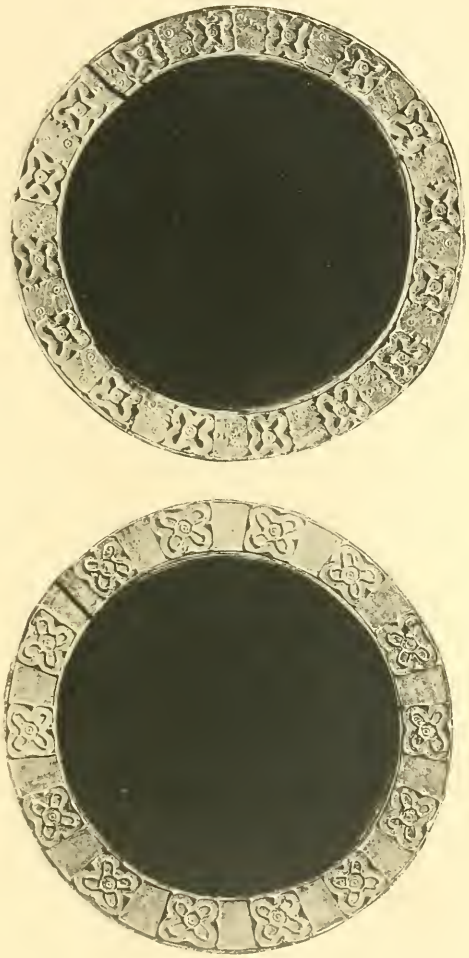
In ancient Mexico mirrors made of highly polished slabs of obsidian, rectangular, square, or circular, were used. Some mirrors are of considerable size, and in a few cases both faces are polished. Diminutive circular obsidian mirrors were often set in the front of idols, but more often marcasite or hematite was employed for the purpose. Several stone statues or idols containing such tiny mirrors are in various museums, and an example, representing the god Coatlicue, with a mirror of pyrites in the chest, is illustrated in *Turquois Mosaic Art in Ancient Mexico*. The inventories of Spanish loot sent by the conquerors to Spain, to which we have frequently referred, record a number of mirrors. Grijalva in 1517 sent "a mirror with two faces, adorned with gold." In the inventory of 1519, listing the loot sent by Cortés to the King, we read of "a mirror placed in a piece of blue and red stone mosaic-work, with feather-work stuck to it, and two strips of leather stuck to it, and another skin that seems like marten's." A later list of objects sent to Spain in care of Diego de Soto included "a mirror with two faces; a mirror with a figure of *guasteca*; a *guaxteca* mirror with a crystal in the nostrils; a round mirror like a sun; a large round mirror; a mirror with the head of a lion; a mirror with the figure of an owl with some *chalchihuites*; a mirror with a case of stone knives."

A circular obsidian mirror with two faces, set in a carved gilded wooden frame, was recently found in Spain but has come back to America by way of England, and is now in the American Museum of Natural History (pl. LI). The mirror itself measures 10½ inches in diameter by three-quarters of of an inch in thickness, while its frame, covered with thin, dull gold-leaf, is 1⅝ inch wide and an inch in thickness. The upper view of the mirror in pl. LI seems to be the principal face, for the areas separating the four-lobed design, which is repeated around the entire frame, are incised with a conventional design, two variants alternating, not found

in the spaces on the other face, where we find the same four-lobed pattern with blank areas intervening. This remarkable specimen might well be one of the round mirrors listed in the inventory last mentioned.

MAYAN LINTELS

Wood was extensively used by the Mayan Indians of Yucatan and Central America, but of the smaller portable objects, such as those from the Nahuan and Zapotecan region of Mexico which we have illustrated, no specimens are extant. While in Mexico all wood that entered into the construction of temples and other buildings has disappeared, there still exist in the Mayan area hundreds of structures, more or less complete, in which wooden lintels have been preserved in varying degrees. Although carved wooden lintels were doubtless fairly common in the so-called Mayan empire, most of the remains of wood now found in edifices still standing, although in a more or less ruined condition, are uncarved beams. The ancient city in whose structures carved wooden door lintels were mostly used was Tikal, in Peten, Guatemala. It seems that both the outer and the inner doorways of nearly all the temples of that great city were capped with several lintels of a hard wood called *chico sapote*, and a considerable number of them were beautifully carved. Most of these have been removed, and others have been either greatly defaced or entirely destroyed. The largest number of Tikal lintels are now in the Museum at Basle, having been removed in 1877 by Bernoulli.[116] Several pieces, obtained by Boddam-Whetham, are in the British Museum,[117] and others have lately been received by the American Museum of Natural History in New York City. It is not within the province of this study to present illustrations of these carved lintels, for which the student is referred to the monumental work of Alfred P. Maudslay. Of the carved lintels of Yucatan, about to be mentioned, those of Chichen Itza will be found illustrated in the same work.



MIRROR OF OBSIDIAN WITH GILDED WOODEN FRAME

AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK

During his first visit to Yucatan, John L. Stephens discovered, in the southwesternmost room of the House of the Governor at Uxmal, a "wooden beam, about ten feet long and very heavy, which had fallen from its place over the doorway, and for some purpose or other been hauled inside the chamber into a dark corner. On the face was a line of characters carved or stamped, almost obliterated, but which we could make out to be hieroglyphics, and, so far as we could understand, similar to those at Copan and Palenque." The owner of the hacienda promised to send this lintel to Stephens in New York, but failed to do so; however, on his second trip to Yucatan, he obtained it. We quote Stephens' further remarks concerning the lintel and its ultimate fate: "In the south end apartment, the façade of which we have presented, we found the sculptured beam of hieroglyphics which had so much interested us on our former visit. In some of the interior apartments the lintels were still in their places over the doorways, and some were lying on the floor sound and solid, which better condition was no doubt owing to their being more sheltered than those over the outer doorways. This was the only sculptured beam in Uxmal, and at that time it was the only piece of carved wood we had seen. We considered it interesting, as indicating a degree of proficiency in an art of which, in all our previous explorations, we had not discovered any evidence, except, perhaps, at Ococingo, where we had found a beam, not carved, but which had evidently been reduced to shape by sharp instruments of metal. This time I determined not to let the precious beam escape me. It was ten feet long, one foot nine inches broad, and ten inches thick, of sapote wood, enormously heavy and unwieldy . . . It left Uxmal on the shoulders of ten Indians, after many vicissitudes reached this city, New York, uninjured, and was deposited in Mr. Catherwood's Panorama. I had referred to it as being in the National Museum at Washington, whither I intended to send it as soon as a collection of large sculptured stones, which I was obliged to leave

behind, should arrive; but on the burning of that panorama building, in the general conflagration of Jerusalem and Thebes, this part of Uxmal was consumed, and with it other beams afterwards discovered, much more curious and interesting; as also the whole collection of vases, figures, idols, and other relics gathered upon this journey."[118]

During the same visit Stephens obtained another carved lintel which he discovered at the ruins of Kabah. His description of it, accompanied with a drawing, is as follows: "All the lintels over the doorways are of wood, and all are still in their places, mostly sound and solid. The doorways were encumbered with rubbish and ruins. That nearest the staircase was filled up to within three feet of the lintel; and in crawling under on his back, to measure the apartment, Mr. Catherwood's eye was arrested by a sculptured lintel, which on examination he considered the most interesting memorial we had found in Yucatan . . . The lintel consisted of two beams, and the outer one was split in two lengthwise. They lapped over the doorway about a foot at each end, having been built in when the wall was constructed." This lintel, which was about ten feet long, was worm-eaten, and decayed at the top probably from trickling water. "The subject is a human figure standing upon a serpent. The face was scratched, worn and obliterated, the headdress was a plume of feathers, and the general character and ornaments was the same with that of the figures found on the walls at Palenque . . . The lines were clear and distinct, and the cutting, under any test, and without any reference to the people by whom it was executed, would be considered as indicating great skill and proficiency in the art of carving on wood." With great difficulty this beam was taken out and brought to New York, where it met the same fate as the lintel from Uxmal.

At Chichen Itza, Stephens discovered a richly carved wooden lintel in what is now known as Temple A of the Ball Court. It was later molded by Maudslay, who has published drawings of the carved designs on the outer surface and on

the principal part of the inner surface, but the under-surface carvings had been destroyed. Maudslay notes that "the lintel of the doorway leading to the inner chamber is formed of several beams of wood still in a fair state of preservation. Two pilasters supported an under-lintel carved on its three exposed surfaces."[119]

Another instance of carved wooden lintels is recorded. In his description of the temple called El Castillo, Stephens notes that "single doorways face the east, south and west, having massive lintels of sapote wood covered with elaborate carvings . . . In the back wall of this corridor is a single doorway, having sculptured jambs, over which is a richly-carved sapote beam . . . In this apartment are two square pillars, nine feet four inches high and one foot ten inches on each side, having sculptured figures on all their sides, and supporting massive sapote beams covered with the most elaborate carvings of curious and intricate designs, but so defaced and timeworn that, in the obscurity of the room, lighted only from the door, it was extremely difficult to make them out." Maudslay, who explored the ruins many years later, says that these carved lintels are weatherworn and ruthlessly mutilated, so that it is difficult to form a correct idea of their designs.

Stephens reported the finding at Ococingo of a wooden lintel, presumably, he writes, of sapote wood. It was perfectly sound, and from his examination he believed it to have been trimmed with a metal implement.

OBJECTS FROM THE CHICHEN ITZA CENOTE

A CONSIDERABLE number of wooden objects, perhaps as many as fifty, were found in the sacred well, or *cenote*, at the ruins of Chichen Itza, Yucatan. In our former work we illustrated from this source, by the courtesy of Prof. A. M. Tozzer, four pieces with mosaic decoration, but as Professor Tozzer and Dr. Spinden have prepared for publication an

exhaustive illustrated study of the cenote material, we can anticipate the results of their investigations only to the extent of making brief mention of some of the more important wooden objects recovered by Mr. E. H. Thompson in dredging the well.[120] A number of rudely carved idols are in the lot. There is also a miniature four-legged stool, somewhat like the stools used today in various parts of Central America and South America, which was used possibly as a stand for an idol or for some kind of religious offering. One of the best preserved objects, and a splendid example of the carver's art, is a large flint knife with a wooden handle embellished with twined serpents, recalling appropriately the treatment of the entwined serpent girdle of the enormous stone statue, in the National Museum of Mexico, called Teoyamiqui, but better known as the goddess Coatlicue, the mother of Huitzilopochtli, the Aztecan war god. There are likewise a number of interesting carved labrets, with traces of painting in different colors, as well as several rattles, and wands or scepters, decorated with turquois mosaic or gold-leaf, or painted in colors. Of prime importance are the remains of six atlatls, several of which are more or less complete, so that their general type may be distinguished. Two of them are of the serpent form, and two others exhibit traces of painting in varying colors. Four of the atlatls have finger-loops cut in the well-rounded expansions left for the purpose in shaping these implements. These average 20 inches in length, while one, a painted specimen in a fair state of preservation, is about 23 inches. This last example has a section cut in each side of the shaft where a finger-clutch should be, suggesting that it formerly had this feature. As we do not recall a representation of the atlatl in old-empire Mayan sculptures, and as its occurrence is practically restricted to the edifices of Chichen Itza, which exhibit marked Nahuan influence, we are led to believe that the atlatls, as well as the greater part of the other objects of wood recovered from the sacred cenote, are attributable to the Nahuans. At least the inference is

strong that the atlatl was not a common Mayan implement, but that it came into use ceremonially only in comparatively recent times.

In conclusion we should cite the finding of a portion of a serpent atlatl by Dr. S. K. Lothrop about ten years ago at the ruins of Tenampua, Honduras, a region probably of Lencan rather than of Mayan culture. Unfortunately this priceless relic was lost during the great earthquake which practically destroyed Guatemala City in December, 1917.

NOTES

1. H. H. Bancroft, Native Races of the Pacific States, vol. II, Civilized Nations, chap. XV, p. 482, San Francisco, 1882.

2. T. A. Joyce, Mexican Archæology, New York and London, 1914.

3. H. J. Spinden, Ancient Civilizations of Mexico and Central America, *Handbook Series No. 3, American Museum of Natural History*, second and revised edition, New York, 1922.

4. Clark Wissler, The American Indian an Introduction to the Anthropology of the New World, 2d ed., New York, 1922.

5. The work of Biart was written forty years ago. At that time it was a good résumé of our knowledge of the Aztec, but in recent years, through the publication of newly found chronicles and the advancement of archeological research in the Valley of Mexico, much new information has been gleaned in regard to the pre-Spanish history and development of this interesting part of America.

6. A number of picture records in the native codices establish this fact. See the list of codices in Works Consulted, pages 109-112 herein.

7. The Relación de Tezcoco was written by a mestizo, grandson of the Texcocan king Nezahualpitzintli on his mother's side. It was composed for Philip II, and belongs to the class of narrations like those of Yucatan, etc. The Relación was published for the first time by Icazbalceta in his *Nueva Colección de Documentos para la Historia de México*, tomo III, 1891.

8. The Obras Históricas de Don Fernando de Alva Ixtlilxochitl was first published in its entirety in Mexico, 1891-92—vol. I, Relaciones; vol. II, Historia Chichimeca.

9. In regard to the work of Prescott, I would refer the reader to the new edition published in London, 1922, with a valuable introduction by T. A. Joyce, and 414 beautiful illustrations by Keith Henderson. Quotations from vol. I, chap. I, pp. 13, 321. That the waters of the lake, owing to deforestation, had commenced to recede in early times is proved by the statement of Bernal Díaz. Writing of the march to the capital city by way of Iztapalapa in 1518, he states that "at that time this was a very large town, half of the houses being on land and the other half in the water, and now at this time [probably some years later at the time of writing] it is all dry land and they plant corn where it was formerly lake; and it is so changed in other ways that if one had not then seen it, one would say that it is impossible that what are now fields planted with maize could at one time have been covered with water."—vol. II, chap. LXXXVII, p. 39.

Clavigero devotes considerable space to the forest riches of Mexico. He writes: "For the excellence, variety, and plenty of its timber, that country is equal to any in the world; as there is no sort of climate wanting in it, every one produces its peculiar wood. Besides oaks, firs, pines, cypresses, beeches, ashes, hazels, poplars, and many others common in Europe, there are entire woods of cedars and ebonies, the two species most valued by the ancients . . . Hernández, in his Natural History, describes about one hundred species of trees, but having, as we before mentioned, consecrated his study to the medicinal plants, he omits the greater part of those which that fertile soil produces, and in particular those which are most considerable for their size and valued for their wood."

10. The best account of this important discovery is by Eduard Seler, "Die Ausgrabungen am Orte des Haupttempels in Mexico," in *Mittheilungen der Anthropologischen Gesellschaft in Wien*, Sonderabdruck das Band XXXI der Dritten Folge, Band I, Vienna, 1901, also translated into Spanish, "Las Excavaciones en el Sitio del Templo Mayor de Mexico," *Anales del Museo Nacional de Mexico*, tomo VII, entrega 8, Mexico, 1902.

11. I quote from the edition of Bernal Díaz del Castillo, published by the Hakluyt Society, London. The work is entitled, The True History of the Conquest of New Spain, translated by Alfred P. Maudslay. See vol. II, chap. XCII, p. 72.

12. Sahagun, Historia General de las Cosas de Nueva España, Bustamante edition, tomo III, lib. II, cap. VI, p. 232, Mexico, 1830. *Vihuelas*, according to the dictionary of Molina, are musical instruments; the term apparently is applied to harps, which were unknown in Mexico before the advent of the Spaniards.

13. The *ahuehuete* is the *Taxodium distichum*, according to León in his edition of Hernández. We give the original text of this quotation from Hernández, as the meaning is somewhat obscure:

"Section. De los Arboles, Parte Segunda del Libro Primero, cap. LXVI. Del Arbol llamado Atambor de Agua, que llaman los yndios ahuehuetl.

"No por otro razon llaman los Mexicanos a este arbol ahuehuetl, sino por que suele nacer cerca de los rios, donde mas corren las aguas, y por que hacen del los atambores, que en su lengua llaman huehuetl y teponaztli, aunque otros dizen que no es la causa por que se llamó assi, si no por que nace cerca de las aguas, y en hiriendole el viento haze notable ruido como los atambores que usan los yndios, no se hazen deste arbol sino de la madera del tlacuilolquahuitl y del capolquahuitl."—p. 63.

14. Sahagun, op. cit., tomo III, lib. II, cap. VI, p. 233. In the Spanish language as spoken in the Americas, the word *ulli* has been corrupted to *hule*, which appears in the dictionaries. *Olin*, or *Ollin*, is the 17th day of the Mexican month. The word means "movement," from the verb *olini*, "to

move, agitate," etc. It is supposed that the name for rubber is derived from this root, because of the property of the gum.

15. I do not know why Hernández calls the *Castilloa elastica* the *chilli* tree.

16. The Florentine manuscript of the great History of Mexico by Father Sahagun has been reproduced in facsimile by Troncoso. It has only recently been distributed by the Mexican Government, although printed in 1905-06. In this invaluable work native artists made the drawings and paintings, and the discovery and conquest of Mexico are illustrated in 161 drawings contained in plates 139 to 158, the final plates of the manuscript, corresponding with and illustrating the text of the twelfth and last book of the Historia. It is supplementary, in a way, to the so-called Lienzo of Tlaxcala, published in Mexico in 1892, which is a strip of cotton cloth, about five yards in length and about two and a half yards wide. It was painted by native Tlaxcaltecan Indians, who had witnessed the conquest, between the years 1550 and 1564. The eighty-six squares illustrate the progress of the conquest of the interior of the country. The original is now lost, but a careful copy exists, and from this the publication was made.

17. I quote from the latest translation made and edited by Francis A. MacNutt, vol. II, Fifth decade, book X, p. 194, New York, 1912.

18. In this study we have used the photographic copy of the Codex Mendoza made for Francisco del Paso y Troncoso. See Codex Mendoza in Works Consulted, pp. 110-111 herein.

19. The important Mappe Tlotzin has been reproduced several times, but the best reproduction was published by Dr. Hamy.

20. Although the Codex Osuna was made during the middle of the sixteenth century, it contains much valuable material for the study of Mexican prehistory.

21. The great work of Mendieta was published by Icazbalceta, for the first time, in Mexico, 1870.

22. The work of Herrera is indispensable to the student of Mexican history, but the archeologist will obtain scant information from it.

23. The Vocabulario de la Lengua Mexicana, by Fr. Alonso de Molina, was first printed in Mexico in 1555. A perfect copy of this excessively rare work is in the library of the Museum of the American Indian, Heye Foundation.

24. The Tribute Roll of Montezuma was published by Archbishop Lorenzana of Mexico in his History of New Spain, being the letters of Cortés, Mexico, 1770. The original, on native paper, is now in the National Museum of Mexico. I use Peñafiel's reproduction, in colors, of this important codex, preferring it to the copy contained in the Codex Mendoza, now in the Bodleian Library at Oxford.

25. The great work of Peñafiel contains not only the reproduction of the Tribute Roll of Montezuma, but of the Zapotecan Codex Sánchez Solis.

26. Bernal Díaz, op. cit., vol. II, chap. LXXXVI, p. 31.

27. Regarding the Lienzo of Tlaxcala, see Note 16.

28. This information is taken from an account by Fr. Andrés de Alcobiz, written in 1543, on the laws of the Indians of New Spain, Anáhuac or Mexico, contained in the famous manuscript of the Icazbalceta library, called Libro de Oro y Tesoro Indico, published by Icazbalceta in *Nueva Colección de Documentos para la Historia de México*, tomo III, Mexico, 1891.

29. A translation of the Anonymous Conqueror has been published by the writer as vol. I of the *Publications of the Cortés Society*, New York, 1917.

30. The Letters of Cortés, edition of Francis A. MacNutt, two vols., New York, 1908; vol. I, Second letter, p. 263.

31. Cortés, op. cit., vol. I; Second letter, pp. 232-33.

32. Cortés, op. cit., vol. I; Second letter, pp. 256-57.

33. Cortés, op. cit., vol. I; Second letter, p. 231.

34. Bernal Díaz, op. cit., vol. II, chap. LXXXVII, p. 38.

35. Cortés, op. cit., vol. I; Second letter, p. 260.

36. Bernal Díaz, op. cit., vol. II, chap. XCII, p. 76.

37. Pomar, op. cit., chap. XXXI, pp. 68-69.

38. The account of Mitla by Alonso de Canseco is one of the most important early descriptions of that ancient city. The explanatory notes by the editor, Francisco del Paso y Troncoso, are of the highest interest.

39. The exploration of the Citadel group, now known as the Temple of Quetzalcoatl, ranks as the foremost piece of archeological work yet conducted in Mexico. The logs and beams mentioned were the only pieces of wood found during the several years of excavations carried on at Teotihuacan. See Teotihuacan, tomo I, vol. I, pp. LXVI-LXVII, lam. VI *b*, VII *b*.

40. Sahagun, op. cit., tomo III, lib. 8, cap. XI, p. 293.

41. Bernal Díaz, op. cit., vol. II, chap. XCI, p. 62.

42. Consult the work of the writer, The Goldsmith's Art in Ancient Mexico, in which a translation of this list of barter obtained by Juan de Grijalva is given (pp. 15-19).

43. See under *Tezozomoc* in the Works Consulted, p. 119.

44. These inventories have been translated by the writer in The Goldsmith's Art in Ancient Mexico.

45. The work of Diego Muñoz Camargo, entitled La Historia de Tlaxcala, was not published until 1892, when it was edited by Alfredo Chavero. See p. 148.

46. The brief account by Zuazo is of the first importance and was one of the earliest notices written about Mexico, being dated November 14, 1521. The quotation is from p. 361.

47. This bow is illustrated in pl. 24 of the work by Peñafiel, Indumentaria Antigua Mexicana. A brief note concerning the specimen is on p. 14.

48. We find this notice regarding the presence of the Aztec loot in Brussels in 1520, in a letter of Dürer published in Albert Dürer His Life and Works, by Moriz Thausing, translated from the German, edited by Fred. A. Eaton, vol. II, pp. 178-79, London, 1882.

49. Anonymous Conqueror, op. cit., p. 23.

50. We call attention here to the fact that this work should be used by the student for reference to the embellishment of objects of wood.

51. Clavigero, History of Mexico, English translation by Cullen, vol. I, pp. 412-13.

52. Cogolludo, Historia de Yucatan, first edition, Madrid, 1688, was reprinted twice in Mexico during the last century. I use the third edition, in two volumes, Merida, 1867-68. The reference is in vol. I, p. 604.

53. The Codex of Vienna, probably one of the two ancient native books sent by Cortés to Europe, and mentioned in one of the inventories, appears only in the work of Kingsborough. It is one of the most important as well as one of the best preserved codices, and should be published in facsimile in its original form, like the Loubat reproductions.

54. Tezozomoc, Crónica Mexicana, cap. XC, p. 606.

55. As the work of Mrs. Nuttall is so exhaustive in treating of the historical material relating to the atlatl, we shall not enter into this phase of the subject, but refer the reader to Mrs. Nuttall's paper. See Works Consulted, p. 116.

56. The student is referred to the important paper by Max Uhle, Peruvian Throwing-sticks, in *American Anthropologist*, N.S., vol. XI, 1909, pp. 624-27, pl. XXXVIII-XXXIX.

57. Several papers have been written in regard to the discovery of spear-throwers in the Southwest. We would refer the reader to the paper by Pepper in Works Consulted, p. 116.

58. The short account of Harrington's discoveries was published in 1924. The atlatl is illustrated in our pl. VI, *d*.

59. The important report by Cushing (see Works Consulted) shows various types of implements and weapons of wood in pl. XXXII. The two atlatls are 3 and 4 of this plate. There is a specimen of an atlatl from this deposit in the collections of the Museum of the American Indian, Heye Foundation, but it is now shrunken to half its former size.

60. See the interesting paper by Dr. Seler on Altmexikanische Wurfbretter, revised edition, which should be considered in consulting the paper by Mrs. Nuttall.

61. The important material obtained by Dr. Palmer in the caves of the State of Coahuila has not been described or illustrated.

62. Modern spear-throwers in use on Lake Patzcuaro were first mentioned by Mason from an example obtained by Captain J. G. Bourke. See his paper, Throwing-sticks from Mexico and California, *Proceedings U. S. National Museum*, vol. XVI, no. 932, Washington, 1893. Starr gives a photograph of a Tarascan Indian in a canoe on Lake Patzcuaro, near the town of Janicho, in the act of hurling a trident spear by means of a spear-thrower, in pl. XXI of The Indians of Southern Mexico, an Ethnographical Album, Chicago, 1899.

63. Sahagun, op. cit. See translation by the writer in Turquois Mosaic Art in Ancient Mexico, pp. 14-15.

64. This quotation is from the Codex Ramírez, p. 117.

65. Reproduced in facsimile in the work of Sahagun, vol. VI, cuaderno 3.

66. Brinton, Rig Veda Americanus, Sacred Songs of the Ancient Mexicans, with a Gloss in Nahuatl, in *Library of Aboriginal American Literature*, no. VIII, p. 17, Philadelphia, 1890.

67. Translated in our Goldsmith's Art in Ancient Mexico, p. 62.

68. See Mrs. Nuttall's paper on the atlatl.

69. The illustration of a comet under the year 1489, and the short text in Spanish, are on page 39, reverse, of the facsimile published in Paris in 1899, with an explanation by Dr. E.-T. Hamy.

70. See Seler's paper on the atlatl.

71. The London atlatl has been illustrated by Joyce, in three drawings, in his Short Guide to the American Antiquities in the British Museum, p. 27, London, 1912.

72. Bushnell has described and illustrated this atlatl in Rome in his North American Ethnographical Material in Italian Collections, *American Anthropologist*, N. S., vol. VIII, 1906, pp. 243-45, pl. opp. p. 245.

73. See paper by Bushnell in Works Consulted, p. 108.

74. Peñafiel, Indumentaria Antigua Mexicana, pl. 25, four views of the atlatl. Also published by Peñafiel in his Monumentos del Arte Mexicano Antiguo, pl. 314, three views.

75. These miniature atlatls are presented in a very indistinct illustration by Gamio in his paper on Vestigios del Templo Mayor de Tenoxtitlán Descubiertos Recientemente—el Coateocalli, in *Ethnos*, tomo I, lamina 13 b. Our reproduction is from the original photograph kindly furnished by Ing. Reygadas.

76. See the list of Codices in Works Consulted, p. 110.

77. This quotation is copied from the translation, now being completed, of the great work of Oviedo, for publication by the Cortés Society.

78. Herrera, Historia General, dec. I, lib. III, cap. IV, p. 69.

79. The work of Benzoni, written in Italian, was first published in Venice in 1565 and reprinted there with the same blocks of illustrations in 1572. The title is, La Historia del Mondo Nvovo di M. Girolamo Benzoni Milanese. Laqval tratta delle Isole, & mari nuouamente ritrouati, et delle nuoue Città da lui proprio vedute, per acqua, & per terra in quattordeci anni. Con privilegio della Illustrissima Signoria di Ventia, per anni XX. [*Colophon:*] In Venetia, appresso Francesco Rampazetto. MDLXV. It has been translated into English by Rear-Admiral W. H. Smyth, and published by the Hakluyt Society under the title, History of the New World, London, 1857. The illustration of a *teponaztli* is copied from the second edition, Venice, 1572.

80. We quote from the reprint of the translation made by Edward Grimston, London, 1604, edited for the Hakluyt Society by Clements R. Markham and printed in London, 1880, vol. II, pp. 445-46.

81. Vetancourt, Teatro Mexicano, edition of Mexico, 1871, vol. III, pp. 178-79.

82. The meaning is here obscure. The word is *cargados*, which may also mean "to carry a burden."

83. Again the meaning is obscure, the word *tarja* means also "a shield."

84. Bernal Díaz, op. cit., vol. II, chap. LXXXIII, p. 12.

85. Sahagun, op. cit., vol. II, lib. 8, cap. XXVII, pp. 315-16.

86. Prescott, op. cit., vol. II, p. 105.

87. Diego de Landa, Historia de las Cosas de Yucatan, first edition, published by Brasseur de Bourbourg, p. 122, Paris, 1864.

88. Eligio Ancona, Historia de Yucatan, tomo I, p. 156, Barcelona, 1889.

89. Frederick Starr, In Indian Mexico, pp. 317-18.

90. We quote from the edition of 1677, p. 348.

91. Sahagun, op. cit., vol. I, lib. 2, cap. XVIII, p. 137.

92. E. T. Hamy, Galerie Américaine du Musée d'Ethnographie du Trocadero, 2d part, pl. XVIII, no. 53, and text, p. 36. Dr. Hamy interprets the two designs on the end panels as representing the sign for the year 2 *Acatl*. Hamy mentions another small *teponaztli* in the Trocadero Museum, 13 inches long and having a conventional decoration in high relief. A third drum of this class, without decoration, is 18⅞ inches in length. We have not been able to obtain photographs of these specimens, as they were not available in the collections of the Trocadero. Through the kindness of Dr. Rivet we have received photographs of a plain *teponaztli* from Guatemala and of a comparatively modern *huehuetl* from the Huichol Indians. The Guatemala drum is peculiar in that it has a stub handle projecting from the middle of one end.

93. Guillermo Dupaix, Antiquités Mexicaines, Paris, 1834. This *teponaztli* is illustrated in the volumes of plates, pl. LXII, no. 120, and described in the text in the account of the Deuxième Expedition, p. 53. It is also illustrated by Kingsborough, Antiquities of Mexico, vol. IV, pl. LIV, no. 127, of the section Monuments of New Spain, by M. Dupaix.

94. Peñafiel, Indumentaria, op. cit., pl. 161.

95. The drawing of the Basle drum is copied from Frobenius. It is to be regretted that we know so little of the provenience of this specimen.

96. A drawing of the *teponaztli* in the British Museum has been published by Joyce in his Mexican Archæology, p. 167. Our illustration in pl. XXVI is based on his drawing.

97. Troncoso, in his Catálogo de la Sección de México, Exposición Histórico-Americana de Madrid, gives a description of this *teponzatli*, which we here-with quote:

"99 y 100 Teponaztle del Cuauhtli Océlotl, visto por sus dos caras labradas, por su fondo y por su cara superior donde están las dos lenguëtas sonoras: estas dos últimas caras nada ofrecen de particular, pero sí la parte labrada que se puede dividir en cuatro secciones: dos anulares cercanas á las bases y que abrazan todo el contorno cilíndrico del teponaztle, y dos rectangulares colocadas diametralmente opuestas en el mismo cilindro. Mide el instrumento 34 cm. long. y 10 alt., y es de madera.

"(*a*) Cara rectangular del Cuauhtli Océlotl. Deja ver á la águila y al tigre combatiendo en direcciones opuestas y como guardándose las espaldas: á la izquierda del águila y cerca de su cabeza está el símbolo bien conocido de la guerra: rodela cruzada por flechas. El tigre cae combatiendo sobre otro animal de su especie derribado en tierra. Un boceto de estos relieves está en "Mexico á Través de los Siglos" (1-595).

"(*b*) Cara rectangular del sol y sus acompañantes, dividida en tres zonas, una central y superior, y dos laterales inferiores. La primera zona (donde está en medio el Sol que ocupa toda la altura de la cara, y de cada lado dos acompañantes) representa el camino del astro del día y de su escolta de guerreros: el Sol está representado como de costumbre, rodeado de rayos, y lleva en el centro una figura humana en cuclillas, personificación del astro ó figura de algún guerrero que le habita: los acompañantes guardan la misma actitud y están vueltos hacia el astro. En las dos zonas laterales se ven arriba las estrellas del firmamento, y abajo un númen en cada una; no se ve bien su actitud sino á la derecha, donde aparece la figura humana hincada sobre una rodilla: paréceme que son los dioses de los puntos cardinales que tienen por misión sostener el firmamento. Otro boceto de la cara en la obra citada. (1-598).

"(*c*) Secciones anulares. Según se puede ver en la cara (a) están ocupados estos anillos por personajes hincados sobre una rodilla, con la cara vuelta para arriba y levantando en alto los brazos, en actitud deprecativa. El instrumento resulta interesantísimo para el estudio de la mitología nahua."—pp. 415-16.

98. On this trip to Tepoztlan we had an opportunity of visiting the ruins of Xochicalco, about twenty-five miles distant. At the foot of the hill on which the ruins are situated is the little Indian village of Tetlama. At that time we learned of the existence of a carved *teponaztli*, preserved in the church, but notwithstanding the request made by Sr. Rodríguez, a pure-blood Aztec, the Indians were unwilling to show it to us.

99. This drum is illustrated in pls. 161-62, a lithograph of the instrument and a drawing of the carving.

100. Dupaix, op. cit., pl. LXXIII. Brantz Mayer gives a poor drawing on p. 104 of his Mexico As It Was And As It Is.

101. Troncoso, in his Catálogo, op. cit. (tomo II, pp. 418-19), describes this drum as follows: "109. Teponaztle Chalca. Instrumento de madera que mide 82 cm. long. y 22 alt. Representa á un animal anfibio por su actitud, que es la de la natación; y por la dentadura y garras en las cuatro patas representa ser un mamífero anfibio de la clase de los carniceros. Dim. fot.: 22 cm. lat. y 15 alt. Está reproducido de costado y por al parte superior."

102. A *teponaztli* from the Totonac region of Vera Cruz has been described. Tylor, who was in Mexico in 1856, has this to say concerning it: "Besides the drums which are preserved in museums, there are others carefully kept in Indian villages, not as curiosities, but as instruments of magical power. Heller mentions such a teponaztli, which is still preserved among the Indians of Huatusco, an Indian village near Mirador in the tierra templada, state of Vera Cruz, where the inhabitants have had their customs comparatively little altered by intercourse with white men. They keep this

drum as a sacred instrument, and beat it only at certain times of the year, though they have no reason to give for doing so [pp. 231-32]." Heller was in Mexico between 1845 and 1848. He says: "Ein solches Teponaztli befindet sich jetz noch im Besitze der Indianer von Huatusco, welche es als ein grosses Heiligtum aufbewahren und nur zu gewissen Zeiten, ohne dass sich jemand die Ursache zu erklären wüsste, gebrauchen. Es ist unglaublich wie weit man die Töne dieser Trommel hört. Bei reiner Luft vernimmt man die Schläge noch deutlich in der Entfernung von einer Stunde.

"Die Tambora, eine grosse, aus einem ausgehölten Stamme gemachte Trommel. Die Teponaztlis, kleinere Trommeln aus Holz, die mehr länglichen Kästchen gleichen, dessen eine Seite aus einem bretchen von drei verschiedenen Dicken bestehet, um verschiedene Töne hervorlocken zu können."—pp. 148-49.

The writer was in Huatusco five years ago, and the drum is no longer there. The isolation of this region, mentioned by Tylor, was ended when it was penetrated by railroads, and now the short distance from rail head to Huatusco may be traversed by automobile.

103. Bernal Díaz op. cit., vol. II, chap. XCII, p. 77.

104. Letters of Cortés, op. cit., vol. I, p. 346.

105. The only illustration of this beautiful *huehuetl* has been published by Seler in Die Tierbilder in den Mexikanischen und den Maya-Handschriften, p. 623, fig. 591, three views.

106. Peñafiel, Indumentaria, op. cit., pls. 158-59. Seler gives photographs, made by Frau Seler, in his paper describing this drum, Die holzgeschnitzte Pauke von Malinalco und das Zeichen. Chavero gives a poor drawing of the carving in his México a Través de los Siglos, pp. 596-97.

107. In describing the *huehuetl* in Toluca, Starr (Popular Celebrations in Mexico, p. 163) says: "At purely Indian towns, on the occasion of celebrating dances, or fiestas, in which a large aboriginal element still remains, the wooden drums *huehuetl* and *teponastle* may be used. In the museum at Toluca is a magnificent specimen of the former, which is old and had been used until very lately in the popular celebrations in a neighboring Indian town. It is more than three feet in height, and measures sixteen inches across the top. It is cut from a single block of wood, a section of a tree trunk, which has been hollowed out into a thin-walled upright cylinder; the lower part has been cut away so as to leave three broad low legs for support. Its surface is beautifully carved with fine figures of an eagle-warrior, two rampant beasts, and a hieroglyphic design. The legs each bear an independent carving, and an ornamented band separates the series. A piece of skin or membrane is stretched across the top."

108. Dupaix, op. cit., p. 53.

109. Starr, In Indian Mexico, p. 91.

110. This paper, first published in French in *Revue d'Ethnographie et de Sociologie*, Paris, 1913, was translated into English and published in the *Smithsonian Report* for 1920, Washington, 1922.

111. Turquois Mosaic Art, op. cit., pp. 87-90.

112. Codex Ramírez, op. cit., p. 117.

113. Op. cit., pp. 93-94. Analogous descriptions are found in other accounts by the early chroniclers. Acosta and Clavigero evidently had access to the manuscript of the Codex Ramírez, for their descriptions are the same. Duran's account (II, 80) is given here, as it contains some different matter:

"Huitzilopochtli era una estatua de palo entallada á la figura de un hombre sentada en un escaño de palo açul á manera de andas por quanto de cada esquina salia un palo vassidron con una caveça de sierpe, alcavo del largor quanto un hombre lo podia poner en el hombro, era este escaño açul de color de cielo que denotava estar en el cielo asentado tenia este ydolo toda la frente açul y por encima de la nariz otra venda azul que le tomava de oreja á oreja, tenia sobre la cabeza un rico penacho á la hechura de pico de pájaro el qual pájaro llamavan vitzitzilin que nosotros llamanos zunzones que son todos verdes y azules de las plumas del qual pajaro hasen en Michhuacan las imagenes. Tienen estos pajarillos el pico largo y negro y la pluma muy relumbrante del qual pajaro antes que passe adelante quiero contar una exelencia y maravilla para honrra y alavança del que lo crio y es que los seis meses del año muere y los seis bibe y es de la manera que dije cuando siente que viene el ynvierno base á un arbol coposso que nunca pierde la hoja y con distinto natural busca en el una endedura y possase en una ramita junto aquella endedura y mete en ella el pico todo lo que puede y estase alli seys meses del año. . . ."

Finally, in this note we give a translation of the brief account by Sahagun:

"Chap. I. Speaking of the principal god adored by them, called Vitcilupuchtli, and to whom the Mexicans sacrifice.

"This god called Vitcilupuchtli was another Hercules, very robust, of great strength, warlike, great destroyer of towns and killer of people. In war he was like living fire, very dreadful to his opponents, and so the device which he carried was the head of a very terrifying dragon, which emitted fire from its mouth. He was also a magician or deceiver who transformed himself into the figure of divers animals and beasts. This man, by reason of his fortitude and dexterity in war, was held in much (honor) by the Mexicans while he lived. After his death he was honored as God, and they offered slaves, sacrificed in his presence. They sought to have these slaves very well treated, well attired with those articles of finery like earornaments and *barbotes*. This was done to further honor him. Another (god) similar to this one was had in Tlaxcala: he was called Camaxtle."—Vol. I, lib. I, cap. I, p. I.

114. Cortés, op. cit., p. 260.

115. As Colini's paper is not easily consulted, we append his description of these three Mexican wooden objects:

"L'idolo, a guisa di figura umana, è alto m.o. 45 [17¾ inches high]. La testa è molto grande, senza alcuna proporzione con le altre parti del corpo ed è sormontana da un ornamento. La faccia conserva ancora traccie del rosso con cui era colorita, il naso è piccolo ma largo e schiacciato, gli occhi sono incavature ovali ed hanno sotto tre incisioni circolari, come se si fossero volute rappresentare le occhiaje di persona vecchia o malata. Anche vicino agli angoli della bocca, poco sopra, sono incise due linee oblique riempite di bianco, quasi a guisa di rughe. Tiene le braccia sollevate con le mani sull'ornamento della testa, ma le altre parti del corpo non sono affatto distinte. Posa sopra una base decorata con incisioni colorite in bianco, di cui manca però una parte, cosicchè non è possibile comprendere pienamente la sua forma primitiva, la quale sembra che fosse rettangolare. In ogni modo era troppo sottile per sostenere l'idolo, e perciò dobbiamo credere che facesse parte di un apparecchio più complicato.

"Delle maschere l'una (v. Tav. in fine, fig. 2) nel tipo e nell'espressione somiglia a quella incrostata di mosaico, descritta da Ulisse Aldrovandi la quale oggi si conserva nel Museo Etnografico Nazionale di Roma [6⅞ inches high]. Il naso è lungo, sottile ed arcuato; ma, non essendo incavato nell'interno la maschera non potrebbe adattarsi alla faccia. Gla occhi consistono in rozze aperture ovali, sotto le quali, a breve distanza, sono incisi due profondi solchi, a guisa di semicerchi, come nell'idolo. Intorno la fronte, sopra la radice del naso, corre una larga fascia in rilievo. Fra le labbra, molto allungate, esce la lingua, che si ripiega sul mento: della parte inferiore non è possibile formarsi un concetto, perchè è stata tagliata. Conserva qua e là le traccie della tinta rossa, ma sono meno evidenti che nell'idoli. Sulla fascia della fronte, nella lingua e sul naso possono ancora notarsi delle linee incise, riempite di materia bianca.

"L'altra maschera (tav., fig. 1) è lavorata con maggiore cura [7⅛ inches high]: ha la faccia simmetrica nelle varie parti e proporzionata. Le labbra sono piccole, ma, quello inferiore essendo rotto, non è possibile indovinarne la forma. Ha il naso arcuato, e largo alla base, ed è internamente incavato in modo che la maschera potrebbe adattarsi alla faccia, e, siccome la bocca, le narici e gli occhi sono forati, così il portatore potrebbe benissimo vedere, respirare e parlare. Nella parte inferiore delle occhiaje, agli angoli, si notano due piccole incavature ad arco, la cui forma farebbe supporre che vi fossero adattati pezzi di madreperla a guisa di occhi, come in quelle del Museo Christy. In generale i lineamente mostrano quella espressione placida e contemplativa, che, secondo il Tylor, è caratteristica dei lavori aztechi e degli egiziani, tanto se si riguardano le massiccie sculture in pietra, quanto le piccole teste di terracotta. Ambedue queste maschere, nella parte superiore corrispondente alla fronte, hanno fori nei quali forse s'immettevano cordoncini per sospenderle: la prima ne ha due grandi agli

angoli, l'altra quattro più piccoli intorno." (See note in Works Consulted, p. 112.)

116. Good illustrations of these lintels have been published by Rosny. See Works Consulted, p. 117.

117. These two pieces are given by Joyce in his Short Guide to the American Antiquities in the British Museum, p. 25. We quote what Maler writes concerning the wood of the Tikal lintels:

"It must always be difficult for a European naturalist to determine an exotic tree merely by a specimen of its wood. It is absolutely necessary that he should examine the leaves, blossoms, and fruit. I will therefore state once more that all the beams and most of the logs used in the structures of Tikal came from the Chictsapotl tree, *Achras Zapota* Linnæus, which occurs so frequently in Central American forests. It is the tree which through a V-shaped incision yields the familiar chewing gum, called *el chicle*. The Aztec name for this gum is *tsictli*, pl. *tsictin*. It was probably also pronounced *tsictli*, *tsictin*, whence the Spanish *chictli*, *chictin* is derived, and from the latter no doubt the form *chicle*."—Explorations in the Department of Peten, Guatemala. Tikal, p. 44.

118. Stephens, Incidents of Travel in Yucatan, vol. 1, pp. 178-79.

119. Maudslay, Archæology, Chichen Itza section, p. 29.

120. An account of this great discovery, written by Thompson, appeared in the *New York World*, April 22, 1923.

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In pl. XI of this report Bandelier gives several small sketches of *teponaztlis* and *huehuetls*. Fig. 5 shows the upper and under parts of a plain *teponaztli* which at the time was in possession of Antonio Canto, a resident of the town of Calpan, not far from Cholula and just south of Huexotzinco. On pp. 150-152 Bandelier considers the subject of Mexican drums of the two classes. He states that the *huehuetl* was still used in the region, and writes, "I can testify to the fact that, in the dry and thin atmosphere, the beating of the *tlapan-huehuetl* is heard at surprisingly great distances."

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In pl. XXVIII the author illustrates the two *teponaztlis* in the National Museum of Mexico. See our pls. XXVII, XXXVI, *a*.

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The first edition of this important work was published in Italian at Venice in 1565. It later passed through several editions, and was translated into Latin, French, German, and Flemish. A brief abstract in English was included by Purchas in his Pilgrimes, vol. IV, 1625. See Note 79.

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This codex is a copy of the Codex de 1576, noted above, and ends with the death of Cuauhtemoc in 1521. The Codex de 1576, comprising 71 pages, continues the annals to the year 1607. The Codice Aubin, or Codex de 1576,

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duction, although lacking the colors, supersedes the others, as it gives accurate representations of the figures, which are not always found in the other publications. This codex is now in the Bodleian Library, Oxford.

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In this article Colini (pp. 324-25) describes two masks and an idol in the Museo Borgiano in Rome. Regarding these specimens he quotes from Vitæ Synopsis Stephani Borgiæ, S. R. E. Cardinalis amplissimi, S. Congr. de Propaganda Fide Præfecti, Roma, 1805, p. 44: "Classis mexicana: multa lignea et testacea idolorum simulacra, forma et figura singulari, ac genti mexicanae propria." He describes the idol as being made of wood in the form of a human figure, 45 cm. high. The two masks of wood are described, and figured in the plate containing drawings of other American antiquities. It is highly probable that these three objects were formerly decorated with mosaic. See Note 115.

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On page 67 is the illustration of a small sculptured turtle, said to be of stone. It is, however, of wood, and is now preserved in the British Museum.

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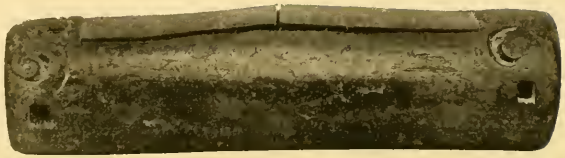
a



b

TWO TEPONAZTLIS

MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION

ADDENDA

As THIS volume is in press I have received additional important material relating to the *teponaztli*, too late to include in its proper place. On page 62 and in pl. XXIV is described and illustrated a richly carved drum made known to us by Frobenius, who states that it is preserved in the Museum of the University at Basle, Switzerland. Through the kindness of Dr. Rivet, of Paris, I have received from Dr. Felix Speiser, Director of the Museum für Völkerkunde in Basle, three photographs of this drum. Dr. Speiser writes that it was collected in Mexico about a hundred years ago, and is now in the Museum of which he is Director. We find only a few unimportant differences between the photographs and our drawing.

On page 73 and in pl. XXXVII, *c*, attention is called to a drum, of the genuineness of which we were credulous. In a collection of Mexican objects just received by this Museum an almost identical drum makes its appearance, confirming our conjecture that it is not a true relic of antiquity. This comparatively modern fabrication is 20 inches long by 5½ inches in diameter at the ends.

In the same collection are two genuine old *teponaztlis* (pl. LII), one of which (*a*) is 21 inches long, 6 inches high, and 5⅜ inches in diameter at the ends. The age and long-continued use of this instrument are evidenced by the considerable wear of the two tongues at the space near each end where they were struck.

The other example (*b*), apparently equally old, is 18 inches long and each end is about 4¾ inches in diameter. This specimen is unique among the *teponaztlis* which we have described, in that it possesses rectangular cuts at each end which intersect smaller square openings extending through the diameter from front to back. These cuts were undoubtedly for the accommodation of a stout cord for suspending the drum from the neck over the chest when used during dances or ceremonies. An attempt at decoration is found near the end of the front and rear surfaces, of a very crude and simple character.